

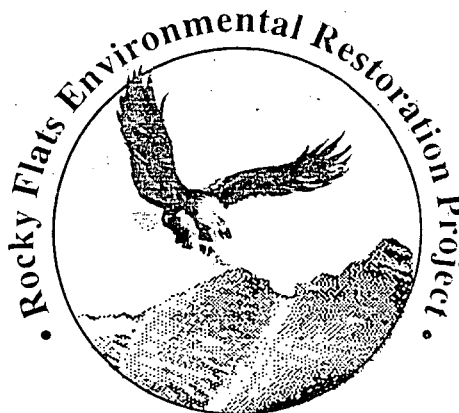


ROCKY FLATS

U.S. DEPARTMENT OF ENERGY
ROCKY FLATS ENVIRONMENTAL
RESTORATION MANAGEMENT

DOE-RFFO
ENVIRONMENTAL
RESTORATION
PROGRAM

Monthly Report for
February 1995



March 20, 1995

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EXECUTIVE SUMMARY

SIGNIFICANT ACTIVITIES AND ACHIEVEMENTS FOR FEBRUARY 1995

The Operable Unit (OU) 1 Final Corrective Measure Study/Feasibility Study (CMS/FS) Report and the Draft revised Proposed Plan were delivered to the regulatory agencies on February 13, 1995.

On February 1, 1995, the OU 4 Final Phase I Proposed Interim Measure/Interim Remedial Action (IM/IRA) Environmental Assessment Decision Document was delivered to the regulatory agencies nine days earlier than scheduled in the Interagency Agreement (IAG).

In February 1995, a letter was received from the Environmental Protection Agency (EPA) that approved the OU 5 schedule extension request for the Draft and Final Resource Conservation and Recovery Action Facilities Investigation/Remedial Investigation (RFI/RI) Reports. This extension was requested because of a change in scope for the Environmental Evaluation that combines the ecological Risk Assessment of OUs into a watershed approach. The Draft RFI/RI Report will be submitted to the regulatory agencies on November 1, 1995; the Final RFI/RI Report will be submitted on April 2, 1996. The project schedule is being revised to reflect this extension request.

In February 1995, a letter was received from the EPA that approved the OU 6 schedule extension request for the Draft and Final Phase I RFI/RI Reports. Because of the change in scope for the Environmental Evaluation that combines the ecological Risk Assessment of OUs into a watershed approach, the extension was requested. The Draft RFI/RI Report will be submitted to the regulatory agencies on October 2, 1995; the Final RFI/RI Report will be submitted on February 21, 1996. The project schedule will be revised to reflect this extension request.

IAG PERFORMANCE INDICATORS FOR MONTHLY REPORT

<u>Number of IAG Table Six Milestones To Date</u>	<u>Current Fiscal Year (FY) 95 (10/1/94 - 9/30/95)</u>	<u>Since IAG Inception</u>
Scheduled (including approved extensions)	13	140
Met	11	108
Extensions Granted	14	63
Extensions Denied	0	8
Remaining this FY 95 (to 9/30/95)	24	n/a
Added	1	11
Deleted	1	5

Deliverables in Review

<u>by Regulators</u>	<u>Project</u>	<u>Date Submitted/ Completed</u>	<u>Date review was completed EPA CDPHE</u>
	OU 1 Final Corrective Measures Study/Feasibility Study Report	13 Feb 95	
	OU 1 Revised Draft Proposed Plan	13 Feb 95	

IM/IRA Status

	<u>Gallons Treated</u>
OU 1 881 Hillside Treatment	2,712,163 gallons
OU 2 Surface Water IM/IRA Treatment	24,806,170 gallons
OU 4 Water Management Tasks (Interceptor Trench System and Pond Water)	5,167,854 gallons

<u>IAG Document Deliverables Due Next Six Months</u>	<u>IAG Approved Planned Date</u>	<u>Current Projected Completion Date</u>	<u>Comments</u>
OU 1 Final Proposed Plan	18 May 95	18 May 95	On schedule
OU 1 Draft Title II Design	05 Jul 95	05 Jul 95	On schedule
OU 2 Draft Phase II RFI/RI Report	30 May 95	30 May 95	On schedule
OU 2 Corrective Design/Remedial Design Work Plan	15 Jun 95	03 Mar 98	Extension requested
OU 4 IM/IRA Responsiveness Summary	09 Jun 95	09 Jun 95	On schedule
OU 4 904 Storage Compliance	31 Jul 95	31 Jul 95	On schedule
OU 4 Final Phase I IM/IRA Decision Document and Final Responsiveness Summary	29 Aug 95	29 Aug 95	On schedule
OU 7 Release Final Leachate Collection Responsiveness Summary and Interim Measure/Interim Remedial Action	22 Mar 95	22 Mar 95	On schedule
OU 7 Draft Phase I Proposed IM/IRA Decision Document	31 Aug 95	31 Aug 95	On schedule
OU 9 Draft Phase II RFI/RI Work Plan	10 Mar 95	To be determined	See footnote 1
OU 9 Draft Phase I Proposed IM/IRA Decision Document	01 May 95	To be determined	See footnote 1
OU 9 Final Phase II RFI/RI Work Plan	07 Aug 95	To be determined	See footnote 1
OU 10 Phase I Proposed IM/IRA Decision Document	26 May 95	To be determined	See footnote 1

¹ The milestones are incorporated into the proposed Industrial Area (IA) Operable Units' (OUs) Reconfiguration Plan that is currently under review.

<u>IAG Document Deliverables Due Next Six Months</u>	<u>IAG Approved Planned Date</u>	<u>Current Projected Completion Date</u>	<u>Comments</u>
OU 10 Draft Phase II RFI/RI Work Plan	27 Jun 95	To be determined	See footnote ¹
OU 11 Draft Combined RFI/RI Report	20 Jul 95	19 May 95	Ahead of schedule
OU 14 Final Phase I RFI/RI Report	23 May 95	To be determined	See footnote ¹

<u>Overdue Deliverables</u>	<u>IAG Approved Planned Date</u>	<u>Current Projected Completion Date</u>	<u>Comments</u>
OU 8 Draft Phase I RFI/RI Report	14 Feb 94	22 Jul 03 ²	Overdue
OU 8 Final Phase I RFI/RI Report	12 Jul 94	06 Apr 04 ²	Overdue
OU 9 Draft Phase I RFI/RI Report	11 Apr 94	04 Apr 05 ²	Overdue
OU 9 Final Phase I RFI/RI Report	06 Sep 94	08 Sep 05 ²	Overdue
OU 10 Draft Phase I RFI/RI Report	25 Aug 94	09 Mar 00 ²	Overdue
OU 10 Final Phase I RFI/RI Report	30 Jan 95	16 May 00 ²	Overdue
OU 12 Draft Phase I RFI/RI Report	20 Apr 94	11 May 98 ²	Overdue
OU 12 Final Phase I RFI/RI Report	15 Sept 94	15 Oct 98 ²	Overdue
OU 13 Draft Phase I RFI/RI Report	08 Aug 94	18 Dec 98 ²	Overdue
OU 13 Final Phase I RFI/RI Report	11 Jan 95	02 Jun 99 ²	Overdue
OU 14 Draft Phase I RFI/RI Report	20 Dec 94	02 Nov 98 ²	Overdue

<u>Extended Deliverables</u>	<u>IAG Approved Planned Date</u>	<u>Current Projected Completion Date</u>	<u>Comments</u>
OU 5 Draft Phase I RFI/RI Report	01 Nov 95	01 Nov 95	See footnote ³
OU 5 Final Phase I RFI/RI Report	02 Apr 96	02 Apr 96	See footnote ³
OU 6 Draft Phase I RFI/RI Report	02 Oct 95	02 Oct 95	See footnote ³
OU 6 Final Phase I RFI/RI Report	21 Feb 96	21 Feb 96	See footnote ³

¹ The milestones are incorporated into the proposed Industrial Area (IA) Operable Units' (OUs) Reconfiguration Plan that is currently under review.

² The dates written in the Current Projected Completion Date column are the anticipated dates. The proposed Industrial Area (IA) OU Reorganization and Reconfiguration Plan is being reviewed by the regulatory agencies. After the plan is approved, a new milestone schedule will be provided.

³ New milestone dates were accepted by the regulatory agencies and DOE on February 15, 1995,

PROBLEMS AND PROGRAMMATIC ISSUES

In OU 3, a "stop work" directive has halted construction on an air monitoring station located on 100th Avenue north of Standley Lake. The stop work directive is in response to recent observations of increased Standley Lake Bald Eagle courtship and nest building activities.

The Chemicals of Concern dispute process has disrupted the OU 3 project schedule. A three-month schedule extension from the regulatory agencies will be requested.

Comments from the regulatory agencies have not been received on the addendum to the OU 9 Field Sampling Plan for Outside Tanks for Tanks T-11 and T-30. Comments are also due from the regulatory agencies on the Draft TM #1, *Volume II, Part A - the Field Sampling Plan for Outside Pipelines*.

Comments from the regulatory agencies for the OU 10 Draft TM #1 have not been received.

NEAR-TERM IAG TABLE SIX MILESTONES

<u>OU #</u>	<u>IAG Milestone Description</u>	<u>Date Scheduled to EPA/CDPHE</u>	<u>Status</u>
9	Submit Draft Phase II RFI/RI Work Plan	10 Mar 95	IA/OU Reconfiguration Plan under review
7	Release Final Leachate Collection Responsiveness Summary and Interim Measure/Interim Remedial Action	22 Mar 95	On schedule
9	Submit Draft Phase I Proposed IM/IRA Decision Document	01 May 95	IA/OU Reconfiguration Plan under review
1	Submit Final Proposed Plan	18 May 95	On schedule
14	Submit Final Phase I RFI/RI Report	23 May 95	IA/OU Reconfiguration Plan under review
10	Submit Draft Phase I Proposed IM/IRA Decision Document	26 May 95	IA/OU Reconfiguration Plan under review
2	Submit Draft Phase II RFI/RI Report	30 May 95	On schedule
4	Submit IM/IRA Responsiveness Summary	09 Jun 95	On schedule
2	Submit Corrective Design/Remedial Design Work Plan	15 Jun 95	Extension requested
10	Submit Draft Phase II RFI/RI Work Plan	27 Jun 95	IA/OU Reconfiguration Plan under review
1	Submit Draft Title II Design	05 Jul 95	Under review pending outcome of Proposed Plan
11	Submit Draft Phases (combined) RFI/RI Report	20 Jul 95	Ahead of schedule
4	904 Pad Storage Compliance	31 Jul 95	On Schedule
9	Submit Final Phase II RFI/RI Work Plan	07 Aug 95	IA/OU Reconfiguration Plan under review
4	Submit Phase I Final IM/IRA Decision Document and Final Responsiveness Summary	29 Aug 95	On schedule
7	Submit Draft Phase I Proposed IM/IRA Decision Document	31 Aug 95	On schedule
1	Submit Draft Responsiveness Summary	19 Sep 95	On schedule
11	Submit Final Phases (combined) RFI/RI Report	19 Sep 95	On schedule
2	Submit Final Phase II RFI/RI Report	21 Sep 95	On schedule
9	Submit Final Phase I Proposed IM/IRA Decision Document	27 Sep 95	IA/OU Reconfiguration Plan under review
6	Submit Draft Phase I RFI/RI Report	02 Oct 95	On schedule
1	Submit Final Title II Design	03 Oct 95	Under review pending outcome of Proposed Plan
7	Submit IM/IRA Responsiveness Summary	04 Oct 95	On schedule

11	Submit Draft Phase I Proposed IM/IRA Decision Document	10 Oct 95	Proposed elimination
<u>OU #</u>	<u>IAG</u> <u>Milestone Description</u>	<u>Date Scheduled</u> <u>to EPA/CDPHE</u>	<u>Status</u>
10	Submit Final Phase I Proposed IM/IRA Decision Document	24 Oct 95	IA/OU Reconfiguration Plan under review
3	Submit Draft Phase I RFI/RI Report	30 Oct 95	Behind schedule
5	Submit Draft Phase I RFI/RI Report	01 Nov 95	On schedule
10	Submit Final Phase II RFI/RI Work Plan	21 Nov 95	IA/OU Reconfiguration Plan under review
4	Submit Final TM Title Design	18 Dec 95	On schedule
1	Submit Final Responsiveness Summary	22 Dec 95	On schedule
1	Submit Draft Corrective Action Decision/Record of Decision	22 Dec 95	On schedule
7	Submit Draft Final Phase I IM/IRA Decision Document	05 Jan 96	On schedule
9	Submit IM/IRA Responsiveness Summary	08 Feb 96	IA/OU Reconfiguration Plan under review
2	Submit Draft Title II Design	15 Feb 96	On schedule
6	Submit Final Phase I RFI/RI Report	21 Feb 96	On Schedule

SECTION 1. INTRODUCTION

This monthly status report presents the current status and technical achievements of the Rocky Flats Environmental Restoration Program for February 1995. This program implements the Interagency Agreement (IAG) among the U. S. Department of Energy (DOE), the U. S. Environmental Protection Agency (EPA), and the State of Colorado to investigate, assess and remediate, where necessary, contaminated areas at or adjacent to DOE's Rocky Flats Environmental Technology Site near Golden, Colorado. This agreement was signed on January 22, 1991, and the work is being performed for DOE by EG&G Rocky Flats, Inc.

The Executive Summary of the report contains highlights of significant achievements, milestone information, and any major unresolved issues of the program. Technical progress, schedule status, and milestone status for each Operable Unit (OU), as well as other program activities, are presented in Section 2. As required by Paragraph 210 of the IAG, Section 3 contains the schedules for routine environmental sampling. As required by Paragraph 13 of the IAG, Section 4 contains a list that identifies the subcontractors performing work on the program.

SECTION 2. PROJECT STATUS

2.1 OU 1 - 881 HILLSIDE AREA

The alluvial groundwater at the 881 Hillside Area, located north of Woman Creek in the southeast section of the Rocky Flats Environmental Technology Site, was contaminated in the 1960s and 1970s with solvents and radionuclides. The area is approximately two miles from the eastern, outer edge of the site's buffer zone at Indiana Street. The various Individual Hazardous Substance Sites (IHSSs) that make up Operable Unit (OU 1) were investigated and treated as high-priority sites because of potentially elevated concentrations of organic compounds in the near-surface groundwater and the proximity of the contamination to a drainage system leading to an offsite drinking water supply. The selected Interim Measure (IM)/Interim Remedial Action (IRA) at OU 1 involved construction of an underground drainage system called a French drain that intercepts and contains near-surface groundwater that flows from the OU 1 area. The near-surface water is treated at the 891 treatment facility, designed for this purpose, and is released onsite into the South Interceptor Ditch along Woman Creek. Water collected from this ditch undergoes a secondary analysis prior to release. IRA construction was completed in April 1992. A Resource Conservation and Recovery Act (RCRA) Facilities Investigation (RFI)/Remedial Investigation (RI) Report was completed in November 1993. The Final Corrective Measures Study/ Feasibility Study and the Draft Proposed Plan were submitted for regulatory review.

2.1.1 OU 1 ASSESSMENT

Scope of Work

Changes This Period None

Technical Approach

Changes This Period None

Interagency Agreement

(IAG) Milestone

Accomplishments

Submit Draft Phase III RFI/RI Work Plan	06 Feb 90
Submit Final Phase III RFI/RI Work Plan	31 Oct 90
Submit Draft Phase III RFI/RI Report	28 Oct 92
Submit Final Phase III RFI/RI Report	15 Nov 93
Submit Revised Phase III RFI/RI Report	15 Jun 94
Submit Draft Corrective Measures Study (CMS)/FS	25 Aug 94
Submit Draft Remedial Action Plan/Proposed Plan	13 Feb 95
Submit Final CMS/FS	13 Feb 95

Future IAG Milestones

Through Fiscal Year (FY) 96

<u>Milestone Name</u>	<u>Planned Date</u>	<u>Approved Extension Status</u>	<u>Forecast Date</u>
Submit Draft Responsiveness Summary	06 May 94	19 Sep 95	23 Jun 95*
Submit Final Responsiveness Summary	03 Aug 94	22 Dec 95	22 Sep 95*
Submit Draft Corrective Action Decision/ Record of Decision	03 Aug 94	22 Dec 95	22 Sep 95*

* A Baseline Change Proposal to change the baseline is in progress.

<u>Milestone Name</u>	<u>Planned Date</u>	<u>Approved Extension Status</u>	<u>Forecast Date</u>
Submit Final Corrective Action Decision/ Record of Decision	01 Nov 94	29 Mar 96	22 Dec 95*
Submit Draft Title II Design	05 Jul 95		21 Nov 96*
Submit Draft Responsiveness Summary	06 May 94	19 Sep 95	19 Sep 95
Submit Final Title II Design	03 Oct 95	03 Oct 95	21 Nov 96
Submit Final Responsiveness Summary	03 Aug 94	22 Dec 95	22 Sep 95
Submit Draft Corrective Action Decision/ Record of Decision	03 Aug 94	22 Dec 95	22 Sep 95
Submit Final Corrective Action Decision/ Record of Decision	01 Nov 94	29 Mar 96	29 Mar 96
Submit Corrective Design/ Remedial Design Work Plan	01 Nov 94	29 Mar 96	29 Mar 96
Begin Corrective/Remedial Action Construction	07 May 96	07 May 96	26 Jun 97

- A Baseline Change Proposal to change the baseline is in progress.

February Work Activity Status

The CMS/FS and the Draft revised Proposed Plan were delivered to the regulatory agencies on February 13, 1995. The 30-day review of these documents is scheduled for completion by the regulatory agencies on March 24, 1995.

A Baseline Change Proposal that addresses milestone extensions that were received from the regulatory agencies in January 1995 is being developed.

Technical Memoranda (TM)

Project

OU 1 - 881 Hillside

TM #10
TM Title
TM Status

Preliminary Remediation Goals
Submitted Final TM to DOE: 03 May 94
When preparation was concluded: 03 May 94
Projected date of submittal to EPA/CDPHE: Submitted
Actual date of submittal: 03 May 94
Date comments were received: EPA 01 June 94, CDPHE 26 Jul 94

TM #11
TM Title
TM Status

Alternative Array
When preparation was concluded: 03 May 94
Projected date of submittal to EPA/CDPHE: Submitted
Actual date of submittal: 03 May 94
Date comments were received: EPA 24 May 94, CDPHE 06 Jun 94

Planned Work for March

- The Baseline Change Proposal will continue to be developed.
- After comments are received from the regulatory agencies on the CMS/FS and the Draft Proposed Plan, the comments will be incorporated.
- A technical position paper is under development that will analyze the suitability of a pump and treatment system for water contaminated with dense Non-Aqueous Phase Liquids at the OU 1 collection well.

Problems

None

Open Items

None

2.1.2 OU 1 REMEDIATION**Scope of Work
Changes This Period**

None

**Technical Approach
Changes This Period**

None

**IAG Milestone
Accomplishments**

Submit Draft Proposed Interim Measure (IM)/IRA Decision Document	18 Sep 89
Submit Proposed IM/IRA Decision Document	06 Oct 89
Submit Final IM/IRA Decision Document	05 Jan 90
Begin Phase I-A IM/IRA Construction	15 Jan 90
Restart Phase I-A IM/IRA Construction (after shutdown)	20 Jun 90
Begin Phase I-B IM/IRA Construction (ahead of schedule)	28 Sep 90
Submit IM/IRA Implementation Document	22 Feb 91
Begin Phase II-A IM/IRA Construction	01 Apr 91
Begin IM/IRA Testing	05 Aug 91
Begin Phase II-B IM/IRA Construction	03 Sep 91
Complete IM/IRA Construction (891 Treatment Building)	02 Mar 92
Complete IM/IRA Construction (French drain)	13 Apr 92

**Future IAG Milestones
Through FY 96**

None

February Work Activity Status**Interim Measure/Interim Remedial Action (IM/IRA)
Treatment Facility - Normal water treatment continues.**

Treated groundwater this period:	14,182 gallons
Total treated to date: (through 02/26/95)	2,712,163 gallons

Accelerated Cleanup - OU 1 Hot spot Removal - All
U-isotopics, gross α/β , and metal samples have been analyzed and

validated. The plutonium and americium-isotopes have been analyzed, and the data are undergoing validation. The validation is expected to be completed on March 1995.

Planned Work for March

**Interim Measure/Interim Remedial Action (IM/IRA)
Treatment Facility**

- Normal Operations.

Accelerated Cleanup - OU 1 Hotspot Removal

- The plutonium and americium-isotopes data validation is expected to be completed in March 1995.
- Upon completion of data validation, work will begin on the Draft Hotspot Removal Report. This report is scheduled to be delivered to the regulatory agencies on April 25, 1995.

Problems

None

Open Items

None

2.2 OU 2 - 903 PAD, MOUND, AND EAST TRENCHES

The contamination at the 903 Pad and Mound Areas is largely attributed to the storage of waste drums in the 1950s and 1960s that corroded over time and allowed hazardous and radioactive material to leak into the surrounding soil. Additional contamination may have resulted from wind dispersion during drum removal and soil movement activities. The East Trenches Area was used for disposal of plutonium- and uranium-contaminated waste and sanitary sewage sludge from 1954 to 1968. Two areas adjacent to the trenches were used for spray irrigation of sewage treatment plant effluent; these areas may have contaminants that were not removed by the treatment system.

Originally, the Surface Water IM/IRA collected seep and surface water contamination sources and then treated and discharged the effluent to the surface water drainage. Operation of the field-scale treatability unit for the South Walnut Creek drainage began in May 1991. The effectiveness of the treatment process was evaluated at three locations: the influent to the treatment facility, several points within the facility, and the discharge point. Approval was granted to discontinue collection of two of the three sources because of the small amount of contamination. However, as a result of the public review of the plans and following the agreement among the regulatory agencies and DOE, the single IM/IRA originally planned for OU 2 was divided into two IRAs in FY 90.

The second IM/IRA was established in late 1991. This Subsurface Investigation IM/IRA Environmental Assessment evaluates interim remedial technology actions for removal of residual free-phase Volatile Organic Compound contamination from IHSS 110. The Volatile Organic Compound-removal action involves *in situ* vacuum-enhanced vapor extraction technology. On October 19, 1992, the pilot test plan for the first stage of this removal project was delivered to the regulatory agencies. In the spring of 1993, the project moved into the field at IHSS 110. By September 1993, a mobile vapor extraction system had been installed and operational tests had begun.

The Final Field Report for the OU 2 Detailed Soil Vapor Survey Data was submitted in March 1994, and a pilot test for soil vapor extraction as specified in the IM/IRA was completed in June 1994. Additionally, extended operations were completed in December 1994, and the Final Pilot Test Report for Test Site Number 1 was issued to the regulatory agencies on November 10, 1994. However, the need for implementation of Test Site Numbers 2 and 3 is currently being evaluated, and these sites may be deleted from the OU 2 soil vapor extraction program.

The OU 2 remedial investigation that has been completed so far has characterized the nature and extent of contamination in surface soils, subsurface soils, and groundwater. In 1986, an OU 2 Phase I Remedial Investigation (RI) of OU 2 was initially completed, and in December 1993, a Preliminary Draft of the OU 2 Phase II RFI/RI Report was delivered to the regulatory agencies. To date, several alternative technologies have been evaluated, and four TMs addressing different aspects of Risk Assessment have been submitted to the regulatory agencies. Three of four TMs have been approved, and approval is expected on the fourth. The Final OU 2 RFI/RI Report is due to the regulatory agencies in September 1995.

2.2.1 OU 2 ASSESSMENT

Scope of Work

Changes This Period None

Technical Approach

Changes This Period None

IAG Milestone Accomplishments

Submit Draft Phase II RFI/RI Work Plan (Alluvial)
Submit Final Phase II RFI/RI Work Plan (Alluvial)

21 Dec 89
12 Apr 90

**IAG Milestone
Accomplishments**

Submit Draft Phase II RFI/RI Work Plan (Bedrock)	05 Feb 91
Submit Final Phase II RFI/RI Work Plan (Bedrock)	02 Jul 91
Submit Field Report for Detailed Soil Vapor Survey	15 Dec 93
Submit Preliminary Draft Phase II RFI/RI Report	16 Dec 93

**Future IAG Milestones
Through FY 96**

<u>Milestone Name</u>	<u>Planned Date</u>	<u>Approved Extension Status</u>	<u>Forecast Date</u>
Submit Draft Phase II RFI/RI Report	12 Mar 93	30 May 95	17 Apr 95
Submit Final Phase II RFI/RI Report	09 Aug 93	21 Sep 95	27 Jul 95
Submit Draft CMS/FS Report	04 Nov 93	19 Jul 96	11 Apr 96
Submit Final CMS/FS Report	10 May 94	19 Dec 96	30 Aug 96
Submit Draft Proposed Plan	10 May 94	10 Jan 97	13 Sep 96
Submit Final Proposed Plan	09 Aug 94	25 Mar 97	26 Nov 96
Submit Draft Responsiveness Summary	13 Dec 94	25 Aug 97	06 May 97
Submit Final Responsiveness Summary	16 Mar 95	05 Dec 97	08 Aug 97
Submit Draft Corrective Action Decision/ Record of Decision	16 Mar 95	05 Dec 97	08 Aug 97
Submit Final Corrective Action Decision/ Record of Decision	15 Jun 95	03 Mar 98	04 Nov 97
Submit Corrective Design/ Remedial Design Work Plan	15 Jun 95		17 Apr 98*
Submit Draft Title II Design	15 Feb 96	15 Feb 96	15 Feb 96
Submit Final Title II Design	14 Jun 96	14 Jun 96	14 Jun 96

- * Because of the Human Health Risk Assessment stop work order, the completion date will be rescheduled.

February Work Activity Status

Remedial Investigation - The amount of economically minable gravel for OU 2 has been estimated for use in the OU 2 Mining Exposure Scenario Baseline Risk Assessment. The current mining scenario uses a default value of 25 years for subsurface exposure to an individual worker.

On February 2, 1995, comments to the Draft Final TM # 5, *Exposure Scenario*, were received from the EPA. EPA comments will be addressed in the Draft OU 2 Phase II RFI/RI Report that is due to the regulatory agencies on May 30, 1995.

Trench and Mound Site Characterization - On February 17, 1995, the Final Trench and Mound Site Characterization and Health and Safety Plan were issued, and the proposal for performing the Engineering Evaluation/Cost Analysis and for preparing the Implementation Plan for accelerated remedial actions in the OU 2 Trenches and Mound

Site was received. The contract for the performance of the Engineering Evaluation/Cost Analysis and for the preparation of the Implementation Plan should be awarded in March 1995.

Feasibility Study

Corrective/Remedial Action Objectives TM - Revision 2 of the Draft Final Corrective/Remedial Action Objectives TM #1 was submitted to the regulatory agencies on February 6, 1995.

Initial List of Remedial Alternatives TM - On February 24, 1995, the Los Alamos National Laboratory, the Rocky Flats Institute, and the DOE completed their technical review of the Preliminary Draft List of the Remedial Alternatives TM.

Detailed Analysis of Remedial Alternatives - The groundwater flow model calibration work continued. The technical evaluation of a proposal to perform the Phase II CMS/FS work was completed.

Technical Memoranda

Project

OU 2 - 903 Pad, Mound, and East Trenches

TM #1
TM Title

Development of Corrective/Remedial Action Objectives
(Draft Submittal in-process)

TM Status

When preparation was concluded: 27 Jan 95
Projected date of Draft submittal to EPA/CDPHE: 01 Feb 95
Actual date of Draft submittal to EPA/CDPHE: 06 Feb 95
Date comments were received: To be determined

TM #2
TM Title
TM Status

Screening of Alternatives (Draft Submittal in-process)
When preparation was concluded: 27 Jan 95
Projected date of Draft submittal to EPA/CDPHE: 01 Mar 95
Actual date of Draft submittal to EPA/CDPHE: To be determined
Date comments were received: To be determined

TM #4
TM Title
TM Status

OU 2 Subsurface IM/IRA Soil Vapor Extraction Pilot Test Site 1 (Draft Submittal)
When Draft preparation was concluded: 08 Sep 94
Actual date of Draft submittal: 24 Oct 94
Date comments were received: 10 Nov 94
When Final preparation was concluded: To be determined
Projected date of Final submittal to EPA/CDPHE: 15 Mar 95
Actual date of Final submittal to EPA/CDPHE: To be determined
Date comments were received from EPA/CDPHE: To be determined

TM #5
TM Title
TM Status

Exposure Scenarios (Draft Final submittal)
When preparation was concluded: 06 Dec 94
Projected date of Draft Final submittal to EPA/CDPHE: 31 Oct 94
Actual date of Draft Final submittal: 07 Dec 94
Date comments were received from EPA/CDPHE: 02 Feb 95

TM #6
TM Title
TM Status

Modeling
When preparation was concluded: 15 Jan 93
Projected date of submittal to EPA/CDPHE: 15 Jan 93
Actual date of submittal to EPA/CDPHE: 15 Jan 93
Date comments were received: 01 Apr 93 EPA, 31 Mar 93 CDPHE
TM approved

TM #7
TM Title
TM Status

Surficial Soils
When preparation was concluded: 07 Jan 93
Projected date of submittal to EPA/CDPHE: 07 Jan 93
Actual date of submittal: 12 Jan 93
Date comments were received: 21 Jan 93
TM approved

TM #8
TM Title
TM Status

Bedrock
When preparation was concluded: 15 Mar 93
Projected date of submittal to EPA/CDPHE: 01 Mar 93
Actual date of submittal: 15 Mar 93
Date comments were received: 14 Apr 93 EPA, 14 Apr 93 CDPHE
TM approved

TM #8 Addendum
TM Title
TM Status

Contingency Plan for revised Phase II RFI/RI Work Plan (Bedrock)
When preparation was concluded: Jun 93
Projected date of submittal to EPA/CDPHE: Jun 93
Actual date of submittal: Jun 93
Date comments were received: FY 93
TM addendum approved

TM #9
TM Title
TM Status

Chemicals of Concern
When preparation was concluded: 08 Aug 94
Projected date of submittal to EPA/CDPHE: 03 Oct 94
Actual date of Draft submittal: 30 Aug 94
Date comments were received: 05 Oct 94
TM approved

TM #10
TM Title
TM Status

Toxicity Assessment
When preparation was concluded: 09 Aug 94
Projected date of submittal to EPA/CDPHE: 30 Aug 94

Actual date of Draft submittal: 02 Sep 94
 Date comments were received: 05 Oct 94
 TM approved

Planned Work for March

- Work will continue on the RI and the IM/IRA operations, on the Feasibility Study, and on the Treatability Studies.

Problems

None

Open Items

None

2.2.2 OU 2 REMEDIATION

**Scope of Work
 Changes This Period**

On February 15, 1995, approval for a Baseline Change Control Proposal to transfer funds from the OU 2 Soil Vapor Extraction Test Sites 2 and 3 work packages into a new Subsurface IM/IRA work package titled, OU 2 Accelerated Action (T-3), was obtained.

**Technical Approach
 Changes This Period**

On February 8, 1995, the schedule for this new OU 2 Accelerated Action (T-3) work package was completed. However, the budget that uses the assumption that the analysis of alternatives determines *in situ* vitrification to be the treatment of choice as an accelerated action is being prepared. By April 1995, the analysis of alternatives document is expected to be completed.

**IAG Milestone
 Accomplishments**

Submit Draft Proposed IM/IRA Decision Document	19 Jun 90
Submit Proposed Plan IM/IRA Decision Document	18 Sep 90
Submit Draft Responsiveness Summary	13 Dec 90
Submit Final Responsiveness Summary	11 Jan 91
and Final IM/IRA Decision Document	
Field Treatability Test System Installation Complete	10 May 91
Begin Field Treatability Testing (Carbon System)	03 May 91
Submit Draft Treatability Test Report	01 Apr 92
(Phase I Granular Activated Carbon)	
Complete IM/IRA Construction	24 Apr 92
(radionuclides removal system)	
Begin Field Treatability Testing	27 Apr 92
(radionuclides removal system)	
Submit Final Treatability Test Report	02 Jun 92
(Phase I Granular Activated Carbon)	
Submit Subsurface Site I Draft Test Plan	29 Oct 92
Submit Subsurface Site I Final Test Plan	12 Jan 93
Submit Draft Surface Water Field	13 Jul 93
Treatability Report	
Submit Subsurface Site 2 Draft Test Plan	06 July 94
Submit Final Phase II Treatability Study Report	26 Jan 94
Begin Subsurface IM/IRA Test I	14 Feb 94

Submit Draft Pilot Test Plan Site 2	06 Jul 94
Submit Draft Pilot Test Report Site 1	10 Nov 94
Submit Final Pilot Test Report Site 1	10 Nov 94

**Future IAG Milestones
Through FY 95**

None

February Work Activity Status

Subsurface IM/IRA Operations

Soil Vapor Extraction - On February 3, 1995, the transfer of the Soil Vapor Extraction system's equipment was completed. Verbal approval to regenerate the spent Granular Activated Carbon from the Soil Vapor Extraction system's extended operations was obtained. Additionally, efforts to finalize the Final OU 2 Subsurface IM/IRA Soil Vapor Extraction Pilot Test Site 1 TM # 4 continued. The anticipated completion date is March 10, 1995.

Source Removal - On February 15, 1995, approval was given to transfer funds from the OU 2 Soil Vapor Extraction Test Sites 2 and 3 work packages into a new Subsurface IM/IRA work package titled, OU 2 Accelerated Action T-3. On February 8, 1995, the schedule for this new work package was completed, but work on the new work package budget continued. Additionally, preparation of the Draft Alternatives Analysis for Remediating OU 2 Trench T-3 (IHSS 110) continued. The anticipated completion date of the Draft Analysis is April 4, 1995.

Surface Water IM/IRA Operations

OU 2 Field Treatability Unit Water Treatment Facility - On February 6, 1995, the spent Granular Activated Carbon acceptance requirements for reactivation were submitted to the Reactivation Facility.

Surface Water IM/IRA treatment activities included the following:

Treated water this month:	6,970 gallons
Total treated to date:	24,806,170 gallons

Sitewide Treatment Facility - Because of a reduction in the Sitewide Treatment Facility's work scope and the consolidation of the OU 1 and OU 2 water treatment equipment, approximately one-third of the facility's funding was returned through the Baseline Change Control Process. In addition to the significant OU 1 and OU 2 cost savings, the OU 7 seep water will be treated at the Sitewide Treatment Facility for a minimal cost increase. To date, the regulatory agencies have not granted approval for the OU 7 seep water to be treated at the Sitewide Treatment Facility.

Off-Site Disposal of Field Treatability Unit Sludge - On

February 28, 1995, the filter cake sampling analyses to determine the waste acceptance criteria for offsite disposal were received from the subcontractor.

Surface Water 59 - The 1994 SW-59 Seep Characterization and Stream Flow Data Summary was submitted to the Rocky Flats Environmental Technology Site RCRA Permitting and Compliance Group for evaluation. This evaluation will verify correct utilization of the RCRA headworks exemption for the SW-59 waste stream. Additionally, the OU 2 Health and Safety Plan was revised to incorporate SW-59 investigation activities, and an approved Integrated Work Control Package that outlines the SW-59 Investigation requirements has been completed. Under the guidelines listed in the Integrated Work Control Package, excavated-soil will be drummed and sampled for hazardous constituents. When weather conditions improve, investigation activities will begin.

Planned Work for March

- The subsurface IM/IRA negotiations to establish milestone dates for the new OU 2 Accelerated Action (T-3) work package will continue. Also, normal Surface Water IM/IRA Operations will continue.

Problems

None

Open Items

None

2.3 OU 3 - OFFSITE AREAS

OU 3 can be divided into two categories based on two main activities. The IAG-directed activities, according to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), involve assessment of contamination in offsite areas also referred to as Contamination of the Land Surface (IHSS 199), Great Western Reservoir (IHSS 200), Standley Lake (IHSS 201), and Mower Reservoir (IHSS 202). The second category responds to a 1985 out-of-court lawsuit settlement, McKay vs. U. S., which directed that the surface soil contamination be remediated. Remedial activities in compliance with the Settlement Agreement (deep disc plowing) began in 1985. The disturbance resulting from remediation is being revegetated with mediocre success. The overall schedule for this activity is determined by the year-to-year success of the revegetation effort and requirements of the landowners.

Scope of Work

Changes This Period

None

Technical Approach

Changes This Period

None

IAG Milestone

Accomplishments

Submit Draft Past Remedy Report	26 Oct 90
Submit Draft Historical Information/ Preliminary Health Risk Assessment Report	09 Nov 90
Submit Final Past Remedy Report	02 Apr 91
Submit Final Historical Information/ Preliminary Health Risk Assessment Report	16 Apr 91
Submit Draft Phase I RFI/RI Work Plan	10 Jul 91
Submit Final Phase I RFI/RI Work Plan	06 Dec 91

Future IAG Milestones

Through FY 96

<u>Milestone Name</u>	<u>Planned Date</u>	<u>Approved Extension Status</u>	<u>Forecast Date</u>
Submit Draft Phase I RFI/RI Report	16 Jul 93	30 Oct 95	30 Oct 95
Submit Final Phase I RFI/RI Report	13 Dec 93	11 Jul 96	11 Jul 96

February Work Activity Status

The regulatory agencies disapproved TM # 4, *Chemicals of Concern Identification*. DOE invoked a dispute resolution under Part 16 of the IAG, and on February 1, 1995, the dispute resolution meeting with the regulatory agencies was held. On February 8, 1995, EPA agreed to approve TM # 4. The CDPHE has not approved the Chemicals of Concern Conservative Screen Letter Report. A response to the CDPHE comments have been prepared and will be submitted to the CDPHE by March 17, 1995. Because of schedule delays associated with the dispute resolution and schedule and budget impacts, a revised project schedule is being developed.

A response to the TM #5, *Toxicity Assessment*, has not been received from the regulatory agencies. This document was delivered

to the regulatory agencies on October 11, 1994, 30 days ahead of schedule, and comments from the regulatory agencies were anticipated in November 1994.

The preparation of a cost estimate and work scope is being developed for the proposed Neighborhood Environmental Watch Network Environmental Monitoring System that was developed by the Los Alamos National Laboratory, the EPA, and the DOE for public education. The monitoring system will consist of three self-contained meteorological and gamma radiation monitors (one located onsite and two located offsite) and will provide public access to the environmental monitoring data.

The DOE directed a "stop work" to halt construction on an air monitoring station located on 100th Avenue north of Standley Lake. The stop work is in response to recent observations of increased Standley Lake Bald Eagle courtship and nest building activities.

On February 23, 1995, a meeting was held to present the OU 3 soil sampling results to the Health Advisory Panel. The Health Advisory Panel will compare the OU 3 sample results with results for soil samples collected within OU 3 as part of a separate study conducted by the Health Advisory Panel.

Technical Memoranda

Project

TM #1
TM Title
TM Status

OU 3 - Offsite Areas

Field Changes to RFI/RI Work Plan
When preparation was concluded: 10 May 93
Projected date of submittal to EPA/CDPHE: 10 May 93
Actual date of submittal: 23 Apr 93
Date comments were received: 05 Jan 94

TM #2
TM Title
TM Status

Exposure Scenarios for the Human Health Risk Assessment
When preparation was concluded: 12 May 93
Projected date of submittal to EPA/CDPHE: 12 May 93
Actual date of submittal: 03 May 93
Date comments were received: 15 Jul 93

TM #3
TM Title
TM Status

Modeling
When preparation was concluded: Jan 95
Projected date of submittal to EPA/CDPHE: 02 Mar 95
Actual date of submittal: To be determined
Date comments were received: To be determined

TM #4
TM Title
TM Status

Contaminants of Concern
When preparation was concluded: Aug 94
Projected date of submittal to EPA/CDPHE: 20 Sep 94
Actual date of submittal: 26 Sep 94
Date comments were received: 09 Jan 95

TM #5
TM Title
TM Status

Toxicity
When preparation was concluded: Sep 94
Projected date of submittal to EPA/CDPHE: 10 Nov 94
Actual date of submittal: 11 Oct 94
Date comments were received: To be determined

Planned Work for March

- The TM #2, *Exposure Scenarios*, will be finalized and resubmitted to the regulatory agencies.
- The schedule will be revised. Because of delays that resulted from the Chemicals of Concern dispute resolution, a schedule extension will be requested from the regulatory agencies.
- Comments on TM #5, *Exposure Scenarios*, from the regulatory agency will be received.
- Sections of the draft RI Report will be developed and prepared.
- Services to install an air monitoring station and a meteorological monitoring station will be procured.

Problems

The Chemicals of Concern dispute process has disrupted the project schedule. DOE will request a three-month schedule extension from the regulatory agencies.

Open Items

None

2.4 OU 4 - SOLAR EVAPORATION PONDS

OU 4 comprises five solar evaporation ponds: 207A, 207B series (North, Center, South), and 207C, which were constructed for treatment and storage of process water from industrial operations. The process water contained treated acidic wastes, industrial liquid wastes (e.g., metal plating solutions), and low-level radioactive wastes.

The ponds were relined with various upgraded materials as technology improved through the early 1960s and 1970s; however, leakage from the ponds into the soil and groundwater was suspected. Interceptor trenches were installed in 1971 to collect and recycle contaminated groundwater to the ponds and to minimize natural seepage and pond leakage from entering North Walnut Creek. In 1981, these trenches were upgraded by the current, larger Interceptor Trench System, which returned approximately 4 million gallons of groundwater back into the solar evaporation ponds each year.

Process water has not been pumped into the ponds since 1986, and with the diversion of the Interceptor Trench System water to storage tanks in April 1993, groundwater is no longer returned to the ponds. At the time, the placement of the Interceptor Trench System water into the ponds occurred without meeting Land Disposal Restrictions and the Minimum Technology Requirements of the RCRA. A new, dedicated Building 910 evaporation-treatment facility, which was constructed to process the Interceptor Trench System water stored in the modular tanks, became operational in July of 1993. This building was designed to supplement the Site's waste treatment facility in Building 374. Since the completion of Building 910, upgrades have been installed to the Building 374 system, and other Site waste streams that this system has processed have decreased in volume. Presently, the Interceptor Trench System water is treated in Building 910 only if the Building 374 treatment facility is unavailable for extended periods.

The Solar Evaporation Ponds Subproject is comprised of four technical areas: (1) disposition of noncertified pondcrete and saltcrete and pond sludge processing as required by the Federal Facilities Compliance Act; (2) water management/treatment by means of the IM/IRA Decision Document signed by the regulatory agencies and DOE; (3) the OU 4 assessment and remedial action, which identified the ponds as one of the 16 OUs to be remediated at the Rocky Flats Environmental Technology Site in accordance with the IAG, and superseded the 1988 Ponds-Closure Plan submitted by DOE to the regulators; and (4) pad operations, storage, and disposal activities that are necessary to meet the Site's RCRA interim status and permit requirements for storage of pond wastes. The water and pond sludge management is a necessary precursor to the OU 4 assessment and remediation, while the pad operations are considered necessary support activities.

Work in the four technical areas was planned to close the ponds and remediate OU 4. The scope of the work was to (1) remove water and sludge from the ponds, (2) provide a treatment facility to replace the ponds as evaporation-treatment and storage units for pond-related groundwater, (3) remove and store pond sludge in compliance of all regulations such as RCRA, (4) assess the nature and extent of contamination at the ponds, (5) complete a RCRA closure of the impoundments, (6) remediate the ponds (source and soils) as required, and (7) remediate groundwater as required.

The RCRA/CERCLA investigation Phase I field work began in FY 93 and will continue through construction of the final corrective/remedial action. The technical scope to be performed by means of the IAG is funded through the OU 4 Assessment and Remediation area with other areas funded to provide necessary precursor and support activities to allow the IAG scope to be completed.

In May 1994, the Pond sludge removal operations in four of the five solar evaporation ponds were completed. In August 1994, operations to remove the sludge in Pond 207C began and were completed in January 1995.

In February 1995, an IM/IRA/Environmental Assessment Decision Document that proposed the Phase I pond closure and remedy was released for public comment. The proposal recommends the use of newly promulgated RCRA regulations designed to improve corrective actions. Contaminated soil, pond sludge, pondcrete, and debris will be permanently placed into the pond closure and isolated to protect human health and the environment. The Final Decision Document is expected to be complete in FY 96.

2.4.1 OU 4 ASSESSMENT

Scope of Work

Changes This Period

None

Technical Approach

Changes This Period

None

IAG Milestone

Accomplishments

Submit Draft Phase I RFI/RI Work Plan

08 Jun 90

Submit Final Phase I RFI/RI Work Plan

26 Nov 90

Submit Draft Phase II RFI/RI Work Plan

27 May 94

Submit Final Phase II RFI/RI Work Plan

02 Sep 94

Remove Sludge from Ponds

20 Jan 95

Future IAG Milestones

Through FY 96

None

February Work Activity Status

The Categorical Exclusion by the National Environmental Policy Act Committee was signed.

On January 30, 1995, a notice to proceed with the geophysical surveys was given. Subsequently, the lines for the seismic refraction survey have begun to be installed.

Technical Memoranda

Project

OU 4 - Solar Evaporation Ponds

TM #1

TM Title

TM Status

Vadose Zone Investigation

Draft submitted to EPA/CDPHE: 16 Nov 92

Comments received: 30 Nov 92

Conditional approval: 30 Nov 92

Projected submittal of Final TM to EPA/CDPHE: 15 Dec 92

Actual submittal date of Final TM: 15 Dec 92

Submittal of TM #1 Vadose Zone Schedule: 19 May 93

EPA/CDPHE final approval of TM #1: 17 Jun 93

TM #2

TM Title

TM Status

Modification to Field Activities

Draft submitted to EPA/CDPHE: 18 Mar 93

Comments received: 07 May 93

Projected submittal of Final TM to EPA/CDPHE: 07 Jun 93

Actual submittal date of Final TM: 09 Jun 93

EPA/CDPHE final approval of TM #2: 30 Jun 93

TM #3
TM Title
TM Status

Environmental Evaluation
Draft submitted to EPA/CDPHE: 19 Mar 93
Comments received: EPA 21 Apr 93, CDPHE 02 Jun 93
Projected submittal of Final TM to EPA/CDPHE: 30 Apr 93
Actual submittal date of Final TM: 02 Jul 93
EPA/CDPHE final approval of TM #3: 30 Jul 93

TM #4
TM Title
TM Status

Human Health Risk Assessment Exposure Scenarios
Draft submitted to EPA/CDPHE: 19 Mar 93
Comments received: EPA 21 Apr 93, CDPHE 23 Apr 93
Projected submittal of Final TM to EPA/CDPHE: 11 Jun 93
Actual submittal date of Final TM: 11 Jun 93
EPA/CDPHE final approval of TM #4: 25 Jun 93

Planned Work for March

- The field activities for the Phase II RFI/RI program are scheduled to continue.

Problems

Outstanding procurement issues have the potential to negatively impact the project schedule. The geoprobe work needs to be awarded as soon as possible or the schedule will be impacted.

Open Items

None

2.4.2 OU 4 REMEDIATION

**Scope of Work
Changes This Period**

None

**Technical Approach
Changes This Period**

None

**IAG Milestone
Accomplishments**

Draft Phase I Proposed IM/IRA Decision Document	27 May 94
All Solar Ponds Emptied of Water and Sludge	15 Jan 95
Final Phase I Proposed IM/IRA Decision Document	01 Feb 95

**Future IAG Milestones
Through FY 96**

<u>Milestone Name</u>	<u>Planned Date</u>	<u>Approved Extension Status</u>	<u>Forecast Date</u>
Submit IM/IRA Responsiveness Summary	25 Jan 95	09 Jun 95*	On schedule
Submit Final Phase I IM/IRA Decision Document and Final Responsiveness Summary	24 Apr 95	29 Aug 95*	On schedule

- * On November 23, 1994, the regulatory agencies approved the extension.

<u>Milestone Name</u>	<u>Planned Date</u>	<u>Approved Extension Status</u>	<u>Forecast Date</u>
903 Pad Storage Compliance	31 Jul 95	31 Jul 95	On schedule
Submit IM Title II Design Work Plan	24 Jun 96	18 Dec 95*	On schedule
Start of Soil Excavation Relative to IHSS 101 Closure	28 Jan 97	28 Oct 96*	On schedule

* On November 23, 1994, the regulatory agencies approved the extension.

February Work Activity Status

The OU 4 Phase I remediation Temporary Unit permit information for pondcrete and pond sludge has been drafted. The language for inclusion in the IM/IRA Decision Document was submitted on schedule. In December 1994, a discussion of the Temporary Units began with the regulatory agencies and continued through January 1995.

The review process for the sludge and pondcrete treatment units, which is required under the National Environmental Policy Act, will be performed in parallel with the public comment period on the Solar Ponds Projects' IM/IRA Decision Document. The Decision Document incorporates an Environmental Assessment that will be the basis of the DOE's National Environmental Policy Act decision. The schedule logic will be revised to reflect the connection to the public comment period. Following the review, a decision will be made on whether a commitment management summary or a mitigation action plan will be needed for future tracking purposes.

The Statement of Work for additional modeling support and the development of the waste recipe has been reviewed by Procurement. The solicitation to the subcontractor occurred in February 1995.

Waste Storage and Disposal

As of February 24, 1995, a total of 729 metal containers were repacked and stacked. DOE's compliance strategy continues to be implemented despite the CDPHE's reversal in policy and the subsequent disagreement over the use of absorbent material in the repacked crates. DOE believes the need to take action on long standing pad compliance issues balances the risk that a second stacking effort may ultimately be required.

Interim Remedial Action

Water Management - The modular tanks have a remaining usable volume of about 820,912 gallons. The RCRA inspections and compressor rotations in Building 910 were satisfactorily completed. The RCRA inspections of the Modular Storage Tanks were completed.

Interim Measure Remediation

IM/IRA Decision Document - On February 1, 1995, the Final Phase I Proposed IM/IRA Environmental Assessment Decision Document was delivered to the regulatory agencies nine days earlier than scheduled in the IAG. Also, the 60-day public comment period began on February 10, 1995. DOE is evaluating whether to remove the closure of Building 964, which has an approved Closure Plan, from the Decision Document. This issue is still under discussion.

Preconstruction - On January 31, 1995, Soil Disturbance permits for construction of the Vehicle Access Gate at Portal #3 and for the General Site Improvements Project were submitted. A Hazardous Waste Determination Form must be completed before this activity can be completed. The security support for the installation of the vehicle access gate at Portal #3 remains on the unfunded list. A mechanism to utilize a Memorandum of Understanding and a Work Authorization Form are being investigated.

The Title II Design Packages for the General Site Improvements Utilities Installation and Overhead Power have been completed. The procurement section of the packages are being prepared and are scheduled to be issued for proposals in March 1995.

On February 15, 1995, a live circuit, which was thought to be deactivated, was cut during the decommissioning activities associated with the Building 788 silo removal. Because the electricians were wearing leather gloves and were using insulated tools, no injuries occurred. All operations have been suspended until corrective actions are completed. Operations are scheduled to resume on or before March 3, 1995.

A Request for Proposal on the cargo container site preparation and grading has been completed. The subcontractor is awaiting equipment removal from the site prior to initiating construction activities.

On February 7, 1995, activities associated with the removal of cement silo #1 began. This activity was on hold awaiting the removal of the sludge process lines and removal of the decontamination trailer. On February 3, 1995, this equipment removal was completed.

Interim Measure Sludge - On February 5, 1995, the pine tar sealant application in Pond 207C commenced, and the application of the first coat was completed. Application of a second coat of sealant has begun and is anticipated to be completed in March 1995.

Activities to remove sludge from the clarifier have been delayed pending transfer of 207C Pond salt currently being stored in metal crates in sludge holding tanks. A key issue is how much water must

be added to the crates to produce a slurry capable of being transferred. A limited amount of tank storage capacity remains, and, therefore, additional 10,000 gallon tanks may be required.

Planned Work for March

- The application of a second coat of sealant in 207C Pond will continue.
- The transfer of salt in metal containers to sludge holding tanks is scheduled to begin.
- Sludge removal operations in the clarifier are scheduled.
- The removal process at the silos located near Building 788 will continue.
- The site stripout activity will continue.
- The site cleanup in support of the relocation of the cargo containers currently located near Building 964 is planned.
- The 904 repack will continue.
- The Treatability Studies on minimally treated pond sludge, pondcrete, and the conceptual design will continue.
- The execution of the Public Outreach Program, designed to inform the public and other interested parties of the facts of the proposed interim action, continues. Three public tours and several meetings with local and Federal political leaders are planned.

Problems

None

Open Items

The OU 4 engineered barrier issues that initiated a dispute resolution in July 1994 continue. Although the dispute formally ended on July 27, 1994, full regulatory support was not achieved. Both the EPA and the DOE support the plan that calls for the placement of minimally treated sludge and pondcrete under the engineered barrier in lieu of an offsite disposal, but the CDPHE has opted to reserve comment until after the public comment period on the Phase I IM/IRA Decision Document. An extension was granted in November 1994 for all related Phase I milestones, but the regulatory concurrence for a planned technical scope is still not known. At the January 25, 1995, meeting, the public response was positive.

A key OU 4 assumption is the use of the Corrective Action Management Unit Temporary Unit for treating certain remediation wastes during Phase I Remediation. Based upon direction from CDPHE during the Joint Working Sessions, DOE plans to use the Corrective Action Management Unit Temporary Unit regulations to

promote significant cost savings and schedule acceleration while fully protecting human health and the environment. However, CDPHE is now questioning the applicability of the law on the OU 4 remediation, and the State has not communicated whether additional requirements will be imposed. Therefore, this regulatory uncertainty poses increased risk to the Phase I remediation project schedule.

Tent 12 and the pad area south on the 750 Pad (for pondcrete) and Tent 11 on the 904 Pad (pondcrete) are required to treat the sludge and pondcrete. These areas need to be made available by either moving wastes to another location or preferably by shipping all saltcrete that complies with the Landfill Disposal Restrictions to an offsite location. Neither option is currently funded, although partial funding for saltcrete disposal does exist. A substantial increase in the funding for saltcrete disposal is needed to execute this option.

2.5 OU 5 - WOMAN CREEK

OU 5; the Woman Creek Priority Drainage, comprises assessment and remediation of 11 IHSSs in the Woman Creek drainage: Original Landfill (IHSS 115); Ash Pits (IHSSs 133.1 - 133.4); Incinerator (IHSS 133.5); Concrete Wash Pad (IHSS 133.6); Detention Ponds C-1 and C-2 (IHSSs 142.10 and 142.11); Surface Disturbance (IHSS 209), southeast of Building 881; and Water Treatment Plant Backwash Pond (IHSS 196). Two additional surface disturbances have been identified: one south of the Ash Pits and a second west of IHSS 209. These last two sites have been included in the OU 5 Work Plan. IHSS 196 has been assigned to this OU. Possible contamination in this OU was caused by landfill operations, stormwater runoff into holding ponds, and Ash Pit operations. Constituents in OU 5 include depleted uranium, metals, solvents, pesticides, polychlorinated biphenyl, and Volatile Organic Compounds. Media affected include soils, sediments, surface water, groundwater, and air.

Scope of Work

Changes This Period None

Technical Approach

Changes This Period None

IAG Milestone Accomplishments

Submit Draft Phase I RFI/RI Work Plan	05 Apr 91
Submit Final Phase I RFI/RI Work Plan	30 Aug 91

Future IAG Milestones Through FY 96

<u>Milestone Name</u>	<u>Planned Date</u>	<u>Approved Extension Status</u>	<u>Forecast Date</u>
Submit Draft Phase I RFI/RI Report	30 Nov 93	01 Nov 95	11 May 95
Submit Final Phase I RFI/RI Report	03 May 94	02 Apr 96	14 Nov 95

February Work Activity Status

In February 1995, a letter was received from the EPA that approved the OU 5 schedule extension request for the Draft and Final RFI/RI Reports. This extension was requested because of a change in scope for the Environmental Evaluation that combines the ecological Risk Assessment of OUs into a watershed approach. The Draft RFI/RI Report will be submitted to the regulatory agencies on November 1, 1995; the Final RFI/RI Report will be submitted on April 2, 1996. The project schedule is being rebaselined to reflect this extension request.

The reduction of investigative derived materials that were generated, packaged, and disposed of during drilling activities that were completed according to the TM #15 caused OU 5 to realize a significant cost savings through waste minimization. By using the Kansas sampler drill rig, all boring material was used for sample analysis without any leftover waste. Additionally, the disposal method of drill cutting fluid was modified to reduce waste by decanting the water off, sending it to the decontamination pad for processing, and drumming up the sediments from the cutting fluid.

On February 16, 1995, DOE met with the regulatory agencies to discuss the inclusion of arsenic in the OU 5 Risk Assessment. Agreement was reached that arsenic is attributable to background and that the background risk will be quantified and addressed in the Uncertainty Analysis Section of the Human Health Risk Assessment portion of the RFI/RI Report. The Contaminants of Concern TM can now be finalized.

Comments on Revision 1 of the Draft Final TM #12, *Exposure Assessment*, are still pending from the EPA. On February 13, 1995, comments were received from the CDPHE. The Risk Assessment Subject Matter Expert held a meeting on February 21, 1995, to resolve some open issues regarding exposure factors. The delay in receiving comments may impact the preparation of the Draft Final RFI/RI Report.

By means of TM #15, *Addendum to the Field Sampling Plan*, intrusive field activities were completed on February 20, 1995. The surveying of well boring locations, the groundwater sample collection, and the water level measurements continues. The following activities occurred during the field activities:

- Completed eight miniwells in IHSS 115.
- Completed twenty geotechnical borings in IHSS 115 on February 9, 1995.
- Completed geotechnical drilling and deep bedrock monitoring well installations, three of which are the surface casing for the fourth, fifth, and sixth bedrock monitoring wells.
- Drilled six bedrock monitoring wells and installed surface casings on the monitoring wells.
- Installed shallow monitoring wells in eight of the geotechnical borings.
- Installed nine miniwells and ten borings in IHSS 133.
- Completed High Purity Germanium surveys, Field Instruction for Detection of Low Energy radiation surveys and surface-soil sampling in IHSS 209 and other surface disturbances.

Air dispersion modeling activities for the Human Health Risk Assessment are complete.

Surface water and groundwater modeling activities for the Human Health Risk Assessment continue.

Technical Memoranda

Project

OU 5 - Woman Creek Priority Drainage Remedial Investigation

TM #1

TM Title

TM Status

Surface Water and Sediments

When preparation was concluded: 30 Nov 92

Projected date of submittal to EPA/CDPHE: 30 Nov 92

Actual date of submittal: 13 Oct 92

TM #2

TM Title

TM Status

Surface Geophysics

When preparation was concluded: 30 Nov 92

Actual date of submittal: 13 Oct 92

TM #3

TM Title

TM Status

Soil Sampling at IHSS 115

When preparation was concluded: 07 May 93

Actual date of submittal: 26 Jan 93

TM #4

TM Title

TM Status

Soil Sampling at IHSS 133

When preparation was concluded: 07 Jun 93

Actual date of submittal: 12 Apr 93

TM #5

TM Title

TM Status

Soil Gas Sampling at IHSS 115

When preparation was concluded: 07 May 93

Actual date of submittal: 25 Mar 93

TM #6

TM Title

TM Status

Cone Penetrometer at IHSS 115

When preparation was concluded: 14 Apr 93

Actual date of submittal: 25 Mar 93

TM #7

TM Title

TM Status

Soil Borings at IHSS 133

When preparation was concluded: 07 May 93

Actual date of submittal: 19 Feb 93

TM #8

TM Title

TM Status

Monitoring Wells at IHSS 115

TM #8 has been canceled and has been replaced by a letter outlining the justification for the location of the wells in IHSS 115.

TM #9

TM Title

TM Status

Monitoring Wells at IHSS 133, Ash Pits, Incinerator, and Concrete Wash Pad

Actual date of the Draft TM submittal to EPA/CDPHE: 06 May 93

Actual date of the Final TM submittal to EPA/CDPHE: 28 Jun 93

TM #10
TM Title
TM Status

Soil Borings at IHSS 209
When preparation was concluded: 06 Mar 93
Actual date of the Final TM submittal to EPA/CDPHE: 06 Mar 93

TM #11
TM Title
TM Status

Contaminants of Concern
Actual date of the Draft Final TM submitted to EPA/CDPHE:
08 Nov 94
Received comments from CDPHE: 13 Dec 94
Received comments from EPA: 15 Dec 94

TM #12
TM Title
TM Status

Exposure Scenarios
Actual date of the submittal of the Final TM to EPA/CDPHE:
10 Jan 95
Received comments from CDPHE: 13 Feb 95

TM #13
TM Title
TM Status

Modeling
Actual date of submittal of the Draft Final TM to EPA/CDPHE: Dec 93
Actual date of submittal of the Final to EPA/CDPHE: 29 Nov 94

TM #14
TM Title
TM Status

Toxicity Assessment
Actual date of submittal of the Final to EPA/CDPHE: 14 Nov 94

TM #15
TM Title
TM Status

Addendum to the Field Sampling Plan
Actual date of the Final TM submittal to EPA/CDPHE: 31 Aug 94

Planned Work for March

- Monthly water level measurements and quarterly groundwater sampling will continue.
- The Human Health Risk Assessment work that includes surface water and groundwater modeling activities will continue.
- The FS with an emphasis on the TM #1 will continue.
- The Environmental Evaluation of the Woman Creek Priority Drainage will continue.

Problems

None

Open Items

Approval of TM #14, *Toxicity Assessment*, is pending.

EPA comments on the Exposure Assessment TM are pending.

2.6 OU 6 - WALNUT CREEK

OU 6; the Walnut Creek Priority Drainage, comprises assessment and remediation of 19 IHSSs: the A-series Detention Ponds, Ponds A-1 through A-4 (IHSSs 142.1 through 142.4 and 142.12); the B-series Detention Ponds, Ponds B-1 through B-5 (IHSS 142.5 through 142.9); the North Spray Field (IHSS 167.1); the East Area Spray Field (IHSS 216.1), the Trenches A, B and C (IHSSs 166.1, 166.2 and 166.3); the Sludge Dispersal Area (IHSS 141); the Triangle Area (IHSS 165); the Old Outfall Area (IHSS 143); and the Soil Dump Area (IHSS 156.2).

Completion of field operations resulted in the following samples from the IHSSs in OU 6: stream sediment, pond sediment, surface soil, subsurface soil, and surface and groundwater.

Scope of Work

Changes This Period

None

Technical Approach

Changes This Period

None

IAG Milestone

Accomplishments

Submit Draft Phase I RFI/RI Work Plan

19 Apr 91

Submit Final Phase I RFI/RI Work Plan

16 Sep 91

Future IAG Milestones

Through FY 96

<u>Milestone Name</u>	<u>Planned Date</u>	<u>Approved Extension Status</u>	<u>Forecast Date</u>
Submit Draft Phase I RFI/RI Report	04 Aug 93	02 Oct 95	19 Apr 95
Submit Final Phase I RFI/RI Report	07 Jan 94	21 Feb 96	20 Nov 95

February Work Activity Status

In February 1995, a letter was received from the EPA that approved the OU 6 schedule extension request for the Draft and Final Phase I RFI/RI Reports. Because of the change in scope for the Environmental Evaluation that combines the ecological Risk Assessment of OUs into a watershed approach, the extension was requested. The Draft RFI/RI Report will be submitted to the regulatory agencies on October 2, 1995; the Final RFI/RI Report will be submitted on February 21, 1996. The project schedule will be rebaselined to reflect this extension request.

In February 1995, DOE submitted the Ecological Risk Assessment Methodology Sitewide Conceptual Model and the Final TM #2, *Exposure Scenarios*, to the regulatory agencies.

As part of the FS, a preliminary cost estimate and schedule were developed for the remediation of pond sediments, surface soils in IHSS 165, and groundwater treatment of Well 3586 for vinyl chloride. The cost estimate and schedule are currently being reviewed.

Efforts on the following projects continue:

- Section 5, Contaminant Fate and Transport, of the RFI/RI Report.
- The Human Health Risk Assessment.
- The professional judgement portion of the tier 2 screening of ecological chemicals of concern for the Ecological Risk Assessment. This task is still on schedule to be completed by March 9, 1995.

Technical Memoranda

Project

OU 6 - Walnut Creek

TM #1

TM Title

TM Status

Work Plan Modifications

Approved by EPA: 08 Jan 93

TM #2

TM Title

TM Status

Exposure Assessment

When preparation of the Draft TM was concluded: 07 July 93

Date the Draft TM was submitted to EPA/CDPHE: 07 Jul 93

Actual date of submittal of the Final TM to EPA/CDPHE: 14 Feb 95

TM #3

TM Title

TM Status

Modeling Description

When preparation of Draft was concluded: 10 Nov 93

Date the Draft TM was submitted to EPA/CDPHE: 10 Nov 93

Date EPA/CDPHE comments were received: 23 Dec 93

Date the Final TM was submitted to EPA/CDPHE: 14 Jan 94

Actual date of submittal of the Second Final TM to EPA/CDPHE:

30 Jan 95

TM #4

TM Title

TM Status

Contaminants of Concern

Date the Draft TM was submitted to EPA/CDPHE: 23 Aug 94

Date EPA/CDPHE comments were received: 03 Oct 94

Approved on 28 Dec 94

TM #5

TM Title

TM Status

Toxicity Factors

Date the Draft Final TM was submitted to EPA/CDPHE: 23 Aug 94

Approved on 28 Dec 94

Planned Work for March

- The preparation of the Assessment Endpoint TM, *Conceptual Model TM*, and the Chemicals of Concern Screen Methodology TM for the Environmental Evaluation continues.
- Efforts on the FS TM #1 will continue.

Problems

None

Open Items

Approvals of TM #3, *Modeling Description*, and TM #2, *Exposure Assessment*, are pending from the regulatory agencies.

Comments from the regulatory agencies on the Draft Final Ecological Risk Assessment Methodology Site Conceptual Model are pending.

2.7 OU 7 - PRESENT LANDFILL

OU 7; the Present Landfill, is located north of the site complex on the western edge of an unnamed tributary of North Walnut Creek and comprises four IHSSs. IHSS 114 includes landfill waste and leachate at the Present Landfill and soils beneath the landfill potentially contaminated with leachate. IHSS 203 contains potentially contaminated soils at the Inactive Hazardous Waste Storage Area, which is a section of the Present Landfill located in the southwest corner, used between 1986 and 1987 as a temporary storage area for hazardous waste. In order to maintain the landfill pond at an acceptable volume to prevent discharge, spray evaporation of landfill pond water was applied to the north and south of the landfill pond comprising IHSSs 167.2 and 167.3, respectively. The practice of spray evaporation was discontinued in 1993.

The Present Landfill began operation in August 1968 and was originally constructed to provide for disposal of the Rocky Flats Environmental Technology Site nonradioactive and nonhazardous wastes. During the mid-1980s, extensive investigations were conducted on the waste streams (types) placed into the landfill; consequently, hazardous wastes/hazardous constituents were identified. Although currently operating as a nonhazardous sanitary landfill, the facility is considered an inactive hazardous waste disposal unit undergoing RCRA closure.

Scope of Work

Changes This Period None

Technical Approach

Changes This Period None

IAG Milestone Accomplishments

Submit Draft Phase I RFI/RI Work Plan	08 Jun 90
Submit Final Phase I RFI/RI Work Plan	28 Aug 91
Submit Draft Phase I RFI/RI Report	Deleted *
Submit Draft Phase II RFI/RI Work Plan	Deleted *
Submit Final Phase I RFI/RI Report	Deleted *
Submit Final Phase II RFI/RI Work Plan	Deleted *
Submit Preliminary Draft Proposed Action Memorandum (leachate) to CDPHE/EPA ¹	13 Oct 94
Submit Draft Revised Phase I Work Plan Technical Memorandum ²	23 May 94
Submit Final Phase I Work Plan Technical Memorandum ²	08 Sep 94
Submit Final Draft Proposed Action Memorandum (leachate) for Public Comment ³	13 Oct 94
Submit Final Responsiveness Summary and Proposed Action Memorandum to CDPHE/EPA ⁴	30 Nov 94

* CDPHE deleted per Oct 21, 1994, letter.

¹ CDPHE added this milestone per May 11, 1994, letter. Technically fulfilled "Submit Preliminary Draft IM/IRA to CDPHE/EPA"

² New milestones per CDPHE October 21, 1994, letter.

³ CDPHE added this milestone per May 11, 1994, letter. Technically fulfilled "Submit Final Draft IM/IRA for Public Comment"

⁴ CDPHE added this milestone per May 11, 1994, letter. Technically fulfilled "Submit Final Responsiveness Summary IM/IRA to CDPHE/EPA"

**Future IAG Milestones
Through FY 96**

<u>Milestone Name</u>	<u>Planned Date</u>	<u>Approved Extension Status</u>	<u>Forecast Date</u>
<u>Landfill Closure IM/IRA</u> Submit Draft Phase I Proposed IM/IRA Decision Document	01 Nov 94	31 Aug 95	03 May 95

<u>Milestone Name</u>	<u>Planned Date</u>	<u>Approved Extension Status</u>	<u>Forecast Date</u>
Submit Final Phase I Proposed IM/IRA Decision Document		05 Jan 96	03 Jul 95
Submit IM/IRA Responsiveness Summary	14 Aug 96	01 Apr 96	01 Apr 96

Landfill Leachate Collection Proposed
Action Memorandum

Release Final Responsiveness Summary and Proposed Action Memorandum		22 Mar 95	22 Mar 95
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February Work Activity Status

All activities associated with the OU 7 Seep Collection and Treatment System Proposed Action Memorandum were postponed. The original agreement came out of a dispute resolution among the regulatory agencies and DOE in April 1994, which required DOE to implement an action for management of the seep at the East Landfill Pond. After further evaluation of the contamination levels and risk associated with the seep water, DOE is preparing a position paper that recommends deferring immediate action and addressing as part of the landfill closure IM/IRA. This procurement process was postponed pending further discussions with the regulatory agencies.

In support of closure activities, DOE acquired two documents in February 1995. The first document was a description of the management strategy for disposition of the investigative derived material from the Phase I field investigation. The second document described the management strategy for consolidation of the landfill pond sediments.

On February 22, 1995, a meeting was held with the regulatory agencies to discuss the options analysis of the IM/IRA Decision Document.

The Rocky Flats Environmental Technology Site personnel refined the gas flow rates and contaminant concentrations and forwarded them to the Rocky Flats Environmental Technology Site Air Quality Division to determine if permitting is required for the landfill as a source.

The dirt available from the new sanitary landfill was inspected for use as common fill for the OU 7 closure.

Technical Memoranda

Project

OU 7 - Present Landfill

TM

TM Title

TM Status

Revised Work Plan

Submitted the Draft TM to EPA/CDPHE for review: 23 May 94

Comments received: 01 July 94

Submitted the Final TM transmitted to EPA/CDPHE: 09 Sep 94

Approved by the regulatory agencies: 30 Sep 94

Planned Work for March

- The options analysis and conceptual design of the landfill closure will continue.
- Closure strategies for all contaminated media in OU 7 will be developed.

Problems

None

Open Items

Concurrence from the regulatory agencies on issues concerning the Proposed Action Memorandum for leachate seep collection and treatment. The postponement of the Proposed Action Memorandum activities will affect the associated milestones.

2.IA INDUSTRIAL AREA (IA) OPERABLE UNITS (8, 9, 10, 12, 13, and 14)

The IA OUs consist of OUs 8, 9, 10, 12, 13, and 14. All of these OUs are being investigated collectively because of a close proximity to each other and similarities in the field work for these OUs (e. g., surficial soil sampling, *in situ* radiation surveys, and soil gas sampling). Combining this work will result in improved oversight, coordination, and reduced costs.

Scope of Work Changes This Period

None

Technical Approach Changes This Period

None

IA Milestone Accomplishments

Submitted Proposed Plan for Reconfiguration
of the IA OUs

04 Nov 94

Future IAG Milestones Through FY 95

This information is listed in the Industrial Area (IA) OUs.

February Work Activity Status

On November 4, 1994, the Proposed Plan for Reconfiguration of the IA OUs was submitted to the regulatory agencies. This plan proposes that the IA OUs be integrated and that the existing eight OUs be consolidated into three OUs. To date no written comments have been received on the Proposed Plan.

On January 25, 1995, the Statement of Work for the intrusive portion of the IA OUs RFI/RI was submitted to Procurement. The Stop Work Order for the IA will put this work on hold, pending reconfiguration of the IA.

DOE sent a letter to CDPHE stating the intent to initiate field activities on surface water and sediment sampling on January 30, 1995, and requested a formal letter of approval for completion of documentation. On February 1, 1995, the notice to proceed on surface water and sediment sampling was issued. Samples are being collected, and field activities should be completed in March 1995.

IA OUs Quality Assurance

The Scientific Notebook Plan was developed and issued for OU 9.

Technical Memoranda

Project

Integrated Industrial Area Operable Units

TM #1

TM Title

TM Status

IA Surface Water and Sediment Sampling Plan

Projected date of submittal to EPA/CDPHE: 12 Jan 95

Actual date of submittal: 05 Jan 95

Date CDPHE comments were received: 15 Jan 95

Planned Work for March

- The surface water and sediment sampling will be completed.

Problems

None

Open Items

Formal approval on the Surface Water and Sediment Field Sampling Plan is pending.

2.8 OU 8 - 700 AREA

The 24 IHSSs that constitute OU 8 encompass separate sites inside and around the production area of the Rocky Flats Environmental Technology Site. Contamination sources within the various IHSSs include above-ground and underground tanks, equipment washing areas, and releases inside buildings that potentially affect areas outside the buildings. Contaminants from these sources may have been introduced into the environment through spills on the ground surface, underground leakage and infiltration, and, in some cases, through precipitation runoff. The chemical composition of the contaminants varies widely between the IHSSs and ranges from low-level radioactive mixed wastes to nonradioactive organic and inorganic compounds.

OU 8 is within the IA at the Rocky Flats Environmental Technology Site and is being managed collectively with the other OUs that are within the IA. The IA OUs consist of OUs 8, 9, 10, 12, 13, and 14. All of these OUs are being investigated collectively because of similarities in the field work for these OUs (e. g., surficial soil sampling, *in situ* radiation surveys, and soil gas sampling). The combination of this work has resulted in improved oversight, coordination, and reduced costs.

Scope of Work

Changes This Period None

Technical Approach

Changes This Period None

IAG Milestone Accomplishments

Submit Draft Phase I RFI/RI Work Plan
Submit Final Phase I RFI/RI Work Plan

01 May 92
01 Dec 92

Future IAG Milestones Through FY 96

<u>Milestone Name</u>	<u>Planned Date</u>	<u>Approved Extension Status</u>	<u>Forecast Date</u>
Submit Draft Phase I RFI/RI Report	14 Feb 94	Tolling Agreement	To be determined*
Submit Final Phase I RFI/RI Report	12 Jul 94	Tolling Agreement	To be determined*

* To be determined pending IA reconfiguration.

February Work Activity Status

Responses to the CDPHE comments on TM #1, *Investigation of Foundation Drains and Other Data Compilation Addendum to the OU 8 Work Plan*, were incorporated. Prior to the production and formal transmittal of the Final TM #1; the updated TM will be submitted to CDPHE for approval, after the IA Stop Work Order is lifted.

Field work that started in October 1994 for the OU 8 RFI/RI Stage 2 investigation that included the seven remaining soil gas samples was completed. The current schedule (i. e., the critical path) was not impacted.

As reported in the January 1995 monthly, a problem with laboratory procedure during the analysis of some soil gas samples was discovered. Because of an internal standard calibration problem, four soil gas samples may need to be resampled and reanalyzed.

The current schedule for data collection will be maintained. Steps to ensure that this problem does not occur again are being taken. The Stop Work Order for the IA has preempted work on the preparation of TM #2.

Industrial Area (IA) Interim Measure/Interim Remedial Action Plan (IRAP) - DOE gave approval to proceed with the Decision Support System approach. A Statement of Work to the Center for Advanced Decision Support for Water and Environmental Systems was prepared and submitted.

Procurement of the equipment for accomplishment of the IM/IRA proposed actions is proceeding. Partial installation of equipment was accomplished.

Work on the Implementation Plan continues and is anticipated to be completed in May 1995.

Technical Memoranda

Project

OU 8 - 700 Area

TM #1

TM Title

Investigation of Foundation Drains and Other Data Compilation
Addendum to the OU 8 Work Plan, Draft Final

TM Status

Projected date of submittal to EPA/CDPHE: 01 Dec 94

Actual date of submittal: 23 Nov 94

Date when EPA/CDPHE comments received: To be determined

TM #2

TM Title

Results of Nonintrusive Field Investigations and Intrusive Work Plans
(Actual Title has not been finalized)

TM Status

Projected date of submittal to EPA/CDPHE: To be determined

Actual date of submittal: To be determined

Date when EPA/CDPHE comments received:

Planned Work for March

- Continue soil gas sampling.

Problems

None

Open Items

None

2.9 OU 9 - ORIGINAL PROCESS WASTE LINES

This project involves the investigation and remediation of a series of tanks and associated process waste lines. The original process waste lines consisted of 35,000 feet of buried pipeline that transferred process wastes from production buildings to onsite treatment plants. A system of 60 designated pipe sections, 40 single and multiple storage tank sites, and three other areas of suspected process waste leakage is included in OU 9. The system was placed into operation in 1952, and additions were made to the system through 1975. The original system was replaced between 1975 and 1984 by the new process waste system. Some tanks and lines from the original system were incorporated into either the new process waste system or the fire water deluge collection system.

The original system is known to have transported or stored various aqueous process wastes containing low-level radioactive materials, nitrates, caustics, and acids. Small quantities of other liquids were also introduced in the system, including medical decontamination fluids, miscellaneous laboratory liquids, and laundry effluent. The RFI/RI Phase I Work Plan includes inspection and sampling of the tanks and pipelines that are accessible and soil sampling to determine the extent of contamination in the vadose zone. The soil sampling will be performed by installing test pits and boring where known or suspected releases occurred near pipe joints and valves, at approximately 100- to 200-foot intervals along the pipelines and by installing borings around the outdoor tanks. Soil characterization studies will determine the need for soil removal and/or treatment. The results of the Phase I RFI/RI will determine the need for interim and/or final remediation action.

OU 9 is within the IA at the Rocky Flats Environmental Technology Site and is being managed collectively with the other OUs that are within the IA. The IA OUs consist of OUs 8, 9, 10, 12, 13, and 14. All of these OUs are being investigated collectively because of similarities in the field work for these OUs (e. g., surficial soil sampling, *in situ* radiation surveys, and soil gas sampling). The combination of the work has resulted in improved oversight, coordination, and reduced costs.

Scope of Work Changes This Period

None

Technical Approach Changes This Period

Based on the EPA and the CDPHE review of the Field Sampling Plan for Pipelines, the technical approach for pipeline investigation will be modified to reduce scope and schedule. This will include scaling back the investigation on certain lines and replacing test pits with less intrusive sampling methods.

IAG Milestone Accomplishments

Submit Draft Phase I RFI/RI Work Plan
Submit Final Phase I RFI/RI Work Plan

08 Jun 90
26 Nov 91

Future IAG Milestones Through FY 96

<u>Milestone Name</u>	<u>Planned Date</u>	<u>Approved Extension Status</u>	<u>Forecast Date</u>
Submit Draft Phase I RFI/RI Report	11 Apr 94	Tolling Agreement	To be determined *
Submit Final Phase I RFI/RI Report	06 Sep 94	Tolling Agreement	To be determined*
Submit Draft Phase II RFI/RI Work Plan	10 Mar 95		To be determined*
Submit Draft Phase I Proposed IM/IRA Decision Document	01 May 95		To be determined*

<u>Milestone Name</u>	<u>Planned Date</u>	<u>Approved Extension Status</u>	<u>Forecast Date</u>
Submit Final Phase II RFI/RI Work Plan	07 Aug 95		To be determined*
Submit Final Phase I Proposed IM/IRA Decision Document	27 Sep 95		To be determined*
Submit IM/IRA Responsiveness Summary	08 Feb 96	08 Feb 96	To be determined*
Submit Final Phase I IM/IRA Decision Document and Responsiveness Summary	07 May 96	07 May 96	To be determined*
Submit Corrective Design/Remedial Design Work Plan	07 Jun 96	07 Jun 96	To be determined*

* To be determined pending IA reconfiguration.

February Work Activity Status

Field work continued with the staking of borehole locations, performing utility clearances, and NaI surveying for Tanks T-1, T-2/3, T-7, T-8, T-11/30, T-14/16, T-21/22, T-24/32, and T-40.

Review of the Draft Addendum to TM #1, *Field Sampling Plan - Original Process Waste Lines - Volume I, Part A, Outside Tanks*, for tank sites T-8, T-9, and T-24/32 was completed. The Final Addendum was submitted to the regulatory agencies in February 1995.

Surface soil sampling started on February 14, 1995, at Tanks T-1, T-2/3, T-24/32, T-29, and T-40.

The Draft Final TM #1, *Field Sampling Plan - Volume II, Part A, Outside Pipelines*, has been under review by the regulatory agencies since November 1994. On February 17, 1995, DOE received a Categorization Plan for rescoping the OU 9 TM #1, *Field Sampling Plan - Volume II, Part A, Outside Pipelines*.

Tank vault/tank air sampling and final preparation/mobilization for the tank characterization began in February 1995. These activities will determine Radiation Work Permit levels and Contaminants of Concern.

Incorporation of comments on the Draft Scientific Notebook Plan were completed, and the plan was issued as a controlled document. Also, the addendum to the IA Health and Safety Plan to address Tanks T-8, T-9, and T-24/32 was reviewed, and comments are being incorporated.

Distribution of individual tank/building notebooks for each building manager/environmental coordinator to review instead of Integrated Work Control Packages was completed for all buildings.

Additional safety requirements to address Tanks T-8, T-9, and T-24 are being investigated. Because the tanks will probably be active during the field sampling activities, additional requirements could be necessary. Precautions such as lockout/tagout will have to be taken to ensure that plenum deluge or other hazardous fluids cannot enter the tank during sampling. Unless preparations are made in advance, these precautions could disrupt operations or the safety system.

Technical Memoranda

Project

OU 9 - Original Process Waste Lines

TM #1

TM Title

Field Sampling Plan - Original Process Waste Lines - Volume I, Part A, Outside Tanks

TM Status

When preparation was concluded: Jan 94

Projected date of submittal to EPA/CDPHE: Mar 94

Actual date of submittal: 15 Mar 94

Date EPA/CDPHE comments received: 11 Apr 94

TM #1

TM Title

Field Sampling Plan - Volume II, Part A, Outside Pipelines

TM Status

When preparation was concluded: Aug 94

Projected date of submittal to EPA/CDPHE: Nov 94

Actual date of submittal: Nov 94

Date EPA/CDPHE comments received: To be determined

Planned Work for March

- The following OU 9 Outside Tank Investigation field activities will continue: High Purity Germanium survey, equipment procurement, soil boreholes, groundwater sampling, and tank inspection/sampling.
- The final controlled OU 9 modification to the IA Health and Safety Plan will be released.
- When received, the regulatory agencies' comments on TM #1, *Field Sampling Plan - Volume II, Part A, Outside Pipelines*, will be incorporated.

Problems

Comments from the regulatory agencies have not been received on the addendum to the OU 9 Field Sampling Plan for Outside Tanks for Tanks T-11 and T-30. Comments are also due from the regulatory agencies on the Draft TM #1, *Volume II, Part A - the Field Sampling Plan for Outside Pipelines*.

Open Items

Comments from the regulatory agencies have not been received on the addendum to the OU 9 Field Sampling Plan for Outside Tanks for Tanks T-11 and T-30. Comments are also due from the regulatory agencies on the Draft TM #1, *Volume II, Part A - the Field Sampling Plan for Outside Pipelines*.

2.10 OU 10 - OTHER OUTSIDE CLOSURES

OU 10 is composed of 15 IHSSs scattered throughout the Rocky Flats Environmental Technology Site. Six of the IHSSs are located in the Protected Area, two are located in the buffer zone near the present landfill, and the remaining IHSSs are located near various buildings throughout the Rocky Flats Environmental Technology Site. The types of wastes and contaminants identified at these sites include pondcrete/saltcrete storage, diesel and fuel spills, and heavy metal contamination. A Draft and Final TM will be developed that will summarize the nonintrusive portion of the OU 10 field work. Other IHSS-specific intrusive activities are scheduled for FY 94.

OU 10 is currently being managed collectively with the other IA OUs (8, 9, 12, 13, and 14). All of these OUs are being investigated collectively because of the similarities in the field work for these OUs (e. g., surficial soil sampling, *in situ* radiation surveys, and soil gas sampling). The combination of this work has resulted in improved oversight, coordination, and reduced costs.

Scope of Work Changes This Period

None

Technical Approach Changes This Period

None

IAG Milestone Accomplishments

Submit Draft Phase I RFI/RI Work Plan
Submit Final Phase I RFI/RI Work Plan

27 Nov 91
01 May 92

Future IAG Milestones Through FY 96

<u>Milestone Name</u>	<u>Planned Date</u>	<u>Approved Extension Status</u>	<u>Forecast Date</u>
Submit Draft Phase I RFI/RI Report	25 Aug 94	Tolling Agreement	To be determined*
Submit Final Phase I RFI/RI Report	30 Jan 95	Tolling Agreement	To be determined*
Submit Draft Phase I Proposed IM/IRA Decision Document	26 May 95		To be determined*
Submit Draft Phase II RFI/RI Work Plan	27 Jun 95		To be determined*
Submit Final Phase II RFI/RI Work Plan	21 Nov 95		To be determined*
Submit Final Phase I Proposed IM/IRA Decision Document	24 Oct 95	24 Oct 95	To be determined*
Submit IM/IRA Responsiveness Summary	06 Mar 96	06 Mar 96	To be determined*
Submit Final Phase I IM/IRA Decision Document	04 Jun 96	04 Jun 96	To be determined*
Corrective Design/Remedial Design Work Plan	05 Jul 96	05 Jul 96	To be determined*

* To be determined pending IA reconfiguration.

February Work Activity Status

The Draft TM #1 comments were scheduled to be received from the regulatory agencies on February 6, 1995, but have not been received to date. The schedule for the delivery of the OU 10 Final Phase I Nonintrusive TM #1 is in jeopardy of being delayed approximately three weeks from the preliminary schedule that was

developed in June 1994 and will result in a day-for-day slippage of the Final document delivery schedule.
Four locations were resampled in IHSS 170.

The sodium iodide surveys were completed.

An addendum to the Draft TM #1 for presentation of the IHSS 129 surface soil, invalidated, analytical data was completed.

Technical Memoranda

Project

OU 10 - Other Outside Closures

TM #1
TM Title
TM Status

Draft Final Phase I Nonintrusive TM #1
When preparation was concluded: 17 Jan 95
Projected date of submittal to EPA/CDPHE: 17 Jan 95
Actual date of submittal: 17 Jan 95
Date comments were received from the EPA/CDPHE: To be determined

TM #1
TM Title
TM Status

Final Phase I Nonintrusive TM #1
When preparation was concluded: To be determined
Projected date of submittal to EPA/CDPHE: 06 Apr 95
Actual date of submittal: To be determined
Date comments were received from the EPA/CDPHE: To be determined

Planned Work for March

- The validation of the remaining sample analytical data will be completed.

Problems

None

Open Items

Comments from the regulatory agencies for the Draft TM #1 have not been received.

2.11 OU 11 - WEST SPRAY FIELD

The West Spray Field is located within the Rocky Flats Environmental Technology Site buffer zone immediately west of the 130 Trailer complex. The West Spray Field was in operation from April 1982 to October 1985. During operation, excess liquids from Solar Evaporation Ponds 207B North and Center (contaminated groundwater in the vicinity of the ponds and treated sanitary sewage effluent) were pumped periodically to the West Spray Field for spray application. The spray field boundary covers an area of approximately 105 acres, 38 of which received direct application of solar pond water. The RFI/RI process will entail field studies to investigate the presence or absence of hazardous constituents in soil and groundwater.

Scope of Work Changes This Period

None

Technical Approach Changes this Period

None

IAG Milestone Accomplishments

Submit Draft Phase I RFI/RI Work Plan
Submit Final Phase I RFI/RI Work Plan

08 Jun 90
02 Jan 92

Future IAG Milestones Through FY 95

<u>Milestone Name</u>	<u>Planned Date</u>	<u>Approved Extension Status</u>	<u>Forecast Date</u>
Submit Draft Phases (combined) RFI/RI Report	20 Sep 94	20 Jul 95*	19 May 95
Submit Final Phases (combined) RFI/RI Report	22 Feb 95	19 Sep 95*	21 Jul 95
Submit Draft Phase II RFI/RI Work Plan	21 Aug 95		Deleted
Submit Draft Phase I Proposed IM/IRA Decision Document	10 Oct 95		Proposed elimination
Submit Final Phase II RFI/RI Work Plan	24 Jan 96	24 Jan 96	05 Aug 97
Submit Final Phase I Proposed IM/IRA Decision Document	14 Mar 96	14 Mar 96	13 Apr 98
Submit Phase I IM/IRA Responsiveness Summary	22 Jul 96	22 Jul 96	30 Oct 98

* Revised according to the Process Improvement Proposal.

February Work Activity Status

On February 13, 1995, the CDPHE Conservative Screen Draft Letter Report was completed for internal review.

The Nature and Extent Section of the RFI/RI Report was completed for internal review.

Technical Memoranda

Project

QU 11 - West Spray Field

TM

TM Title

Revised Field Sampling Plan and Data Quality Objectives

TM Status

Submitted to EPA/CDPHE: 31 Mar 94

TM approved

TM #1

TM Title

Exposure Scenarios

TM Status

When preparation was concluded: Mar 94 (late)

Projected date of submittal to EPA/CDPHE: 14 Dec 94

Actual date of submittal: To be determined

Date EPA/CDPHE comments received: To be determined

TM #2

TM Title

Modeling

TM Status

When preparation was concluded: 22 Mar 94 (late)

Projected date of submittal to EPA/CDPHE: 14 Dec 94

Actual date of submittal: To be determined

Date EPA/CDPHE comments received: To be determined

TM #3

TM Title

Contaminants of Concern

TM Status

When preparation is concluded or estimated to be concluded:

20 Sep 94

Projected date of submittal to EPA/CDPHE: 09 Nov 94

Actual date of submittal: To be determined

Date EPA/CDPHE comments received: To be determined

TM #4

TM Title

Toxicity

TM Status

When preparation is concluded or estimated to be concluded:

10 Oct 94

Projected date of submittal to EPA/CDPHE: 12 Dec 94

Actual date of submittal: To be determined

Date EPA/CDPHE comments received: To be determined

Planned Work for March

- The CDPHE Letter Report will be completed, and the Final Letter Report will be delivered to the regulatory agencies.
- The Ecological Evaluation TM will be prepared.
- Sections of the RFI/RI Report will begin to be compiled.

Problems

None

Open Items

None

2.12 OU 12 - 400/800 AREA

The 400/800 Area comprises assessment and remediation of the following 10 IHSSs within the 400/800 Area: Multiple Solvent Spills at the West and South Loading Dock Areas (IHSSs 116.1 and 116.2); Fiberglassing Areas North and West of Building 664 (IHSSs 120.1 and 120.2); Cooling Tower Ponds - northeast and southwest of Building 460 (IHSSs 136.1, and 136.2); Building 881 - Conversion Site (147.2); Radioactive Site - South Area (IHSS 157.2); Acid Leaks (2) (IHSS 187); and Multiple Acid Spills (IHSS 189).

The Phase I RFI/RI Work Plan, which includes both an Environmental Evaluation and a Human Health Risk Assessment, has been completed. Implementation of this Work Plan includes field work and sample analysis. After implementation, a Phase I RFI/RI Report will be prepared. A Phase II Investigation may be performed as necessary. An FS to determine the best methods to remediate the area will be conducted as part of the assessment.

Based on results obtained during the assessment phase of the project, remediation may consist of the development and execution of a Remedial Action Plan. This process includes review and approval by the regulatory agencies followed by a Record of Decision, release to the public, and implementation of the plan.

OU 12 is within the IA at the Rocky Flats Environmental Technology Site and is managed collectively with the other OUs that are within the IA. The IA OUs consist of OUs 8, 9, 10, 12, 13, and 14. All of these OUs are being investigated collectively because of similarities in the field work for these OUs (e. g., surficial soil sampling, in situ radiation surveys, and soil gas sampling). The combination of this work will result in improved oversight, coordination, and reduced costs.

Scope of Work Changes This Period

None

Technical Approach Changes This Period

None

IAG Milestone Accomplishments

Submit Draft Phase I RFI/RI Work Plan
Submit Final Phase I RFI/RI Work Plan

08 May 92
05 Oct 92

Future IAG Milestones Through FY 95

<u>Milestone Name</u>	<u>Planned Date</u>	<u>Approved Extension Status</u>	<u>Forecast Date</u>
Submit Draft Phase I RFI/RI Report determined*	20 Apr 94	Tolling Agreement	To be determined*
Submit Final Phase I RFI/RI Report	15 Sep 94	Tolling Agreement	To be determined*

* To be determined pending IA reconfiguration.

February Work Activity Status

The Tripod High Purity Germanium Survey was completed in February 1995. The development of the Preliminary Draft TM has begun without this information, and the assumption that was made is that the tripod High Purity Germanium Survey will not generate data significantly different than the truck mounted High Purity Germanium Survey. The tripod results will be included in the Draft TM that will be

DOE will review the TM #2 that summarizes the data gathered from the OU 12 nonintrusive field activities.

In February 1995, while using the Global Positioning System, points were surveyed where OU 12 samples were taken. This work is anticipated to be completed in March 1995.

Technical Memoranda

Project

OU 12 - 400/800 Area

TM #2

TM Title

TM Status

Summary of Nonintrusive Field Investigations

Projected date of submittal to EPA/CDPHE: 03 Oct 95

Actual date of submittal: To be determined

Date EPA/CDPHE comments were received: To be determined

Planned Work for March

- Using the Global Positioning System, the surveying points in OU 12 will be completed.

Problems

None

Open Items

None

2.13 OU 13 - 100 AREA

Cleanup of the 100 Area comprises the assessment and remediation of 14 IHSSs: Chemical Storage - North, Middle, and South Sites (IHSSs 117.1, 117.2, and 117.3); Oil Burn Pit #1 (IHSS 128); Lithium Metal Destruction Site (IHSS 134); Waste Spills (IHSS 148); Fuel Oil Tank (IHSS 152); Radioactive Site - North Area (IHSS 157.1); Radioactive Site - Building 551 (IHSS 158); Waste Peroxide Drum Burial (IHSS 169); Solvent Burning Ground (IHSS 171); Valve Vault 12 (IHSS 186); Caustic Leak (IHSS 190); the Hydrogen Peroxide Spill (IHSS 191), and the Scrap Metal Site (IHSS 197).

Assessment will proceed in three steps. The first step, which has been completed, consists of preparing a Phase I RFI/RI Work Plan. The second step is the implementation of the Work Plan, in which field work and sample analysis will be conducted, data will be analyzed, and the Phase I RI Report will be prepared. When complete, the Phase I RI Report will include both an Environmental Evaluation and a Human Health Risk Assessment. The third step is a FS, which will determine the best method to remediate the area.

Remediation will consist of development and execution of a Remedial Action Plan based on results obtained during the assessment phase of the project. This process includes review and approval by the regulatory agencies, followed by a Record of Decision, release to the public, and implementation of the plan.

OU 13 is within the IA at the Rocky Flats Environmental Technology Site and is managed collectively with the other OUs that are within the IA. The IA OUs consist of OUs 8, 9, 10, 12, 13, and 14. All of these OUs are being investigated collectively because of similarities in the field work for these OUs (e. g., surficial soil sampling, *in situ* radiation surveys, and soil gas sampling). The combination of this work will result in improved oversight, coordination, and reduced costs.

Scope of Work

Changes This Period None

Technical Approach

Changes This Period None

IAG Milestone Accomplishments

Submit Draft Phase I RFI/RI Work Plan	15 May 92
Submit Final Phase I RFI/RI Work Plan	12 Oct 92

Future IAG Milestones Through FY 95

<u>Milestone Name</u>	<u>Planned Date</u>	<u>Approved Extension Status</u>	<u>Forecast Date</u>
Submit Draft Phase I RFI/RI Report	08 Aug 94	Tolling Agreement	To be determined*
Submit Final Phase I RFI/RI Report	11 Jan 95	Tolling Agreement	To be determined*

* To be determined pending IA reconfiguration.

February Work Activity Status

Surficial soils data validation is 98 percent complete.

Soil gas investigations are 79 percent complete. Soil gas resampling was necessary because of a calibration problem with the analytic equipment and underground utility conflicts, but the resampling is nearly complete. The strategy is to complete IHSSs and to follow

plumes or continue until another IHSS boundary is reached. Plume chasing began the week of February 22, 1995.

Two members of the soil gas crew were affected by a noxious odor while doing hand drives in IHSS 158. These two crew members were taken to medical, checked over, and released without restriction. Analysis of blood and urine specimens were normal. There were no indications of high levels of contamination in the soil gas samples that were taken at the time. Follow up industrial hygiene sampling was taken with appropriate safety precautions. The OU 13 portion of the Integrated Health and Safety Plan was amended to allow for this activity. If conditions warrant, the Health and Safety Plan will be amended to provide additional personal protective equipment. results that show there were no chemicals present at levels that necessitated changes to the Health and Safety Plan.

The costs of analysis of all the analytic work performed to date has not been accruing and this has lead to cost variances in the project. The process is being monitored more closely, and the reporting method is being revised.

A subsurface grate sample will be taken at one of the soil gas locations where a brown/black molasses like substance was encountered during soil gas investigations.

Technical Memoranda

Project

OU 13 - 100 Area

TM #1

TM Title

TM Status

Addendum to Field Sampling Plan

When preparation was concluded: Feb 94

Projected date of submittal to EPA/CDPHE: Feb 94

Actual date of submittal: 03 Mar 94

Date EPA/CDPHE comments were received: 16 May 94

TM #2

TM Title

TM Status

Results of the Nonintrusive Field Investigations

Projected date of submittal to EPA/CDPHE: To be determined

Actual date of submittal: To be determined

Date EPA/CDPHE comments were received: To be determined.

Planned Work for March

- The soil gas investigations that include the expansion of study areas where there were positive indications of contamination (hits) present along the IHSS boundaries will be completed.

Problems

None

Open Items

None

2.14 OU 14 - RADIOACTIVE SITES

Work at the Radioactive Sites comprises the assessment and remediation of eight IHSSs: Radioactive Site - 700 Area, loading dock north of Building 776 (IHSS 131); Radioactive Soil Burial - Building 334 Parking Lot and Soil Dump Area (IHSS 156.1); Building 444 Parking Lot (IHSS 160); southwest of Building 664 (IHSS 161); Radioactive Site along 8th Avenue (IHSS 162); Radioactive Sites - 800 Area that includes the concrete slab north of Building 850, and Building 886 Spills; and the Building 889 Storage Pad (IHSSs 164.1, 164.2, and 164.3). In 1991, one of two Soil Dump Area IHSSs (156.2) was deleted from OU 14 and added to OU 6.

Assessment will proceed in three steps. The first step, which has been completed is preparing a Phase I RFI/RI Work Plan. The second step is the implementation of the Work Plan in which field work and sample analysis will be conducted, data analyzed, and the Phase I RI Report will be prepared. When complete, the Phase I RI Report will include both an Environmental Evaluation and a Human Health Risk Assessment. The third step is a FS, which will determine the best method to remediate the area.

Remediation will consist of development and execution of a Remedial Action Plan based on results obtained during the assessment phase and FS of the project. This process includes review and approval by EPA and CDPHE followed by a Record of Decision, release to the public, and implementation of the plan.

OU 14 is within the IA at the Rocky Flats Environmental Technology Site and is managed collectively with the other OUs that are within the IA. The IA OUs consist of OUs 8, 9, 10, 12, 13, and 14. All of these OUs are being investigated collectively because of similarities in the field work for these OUs (e. g., surficial soil sampling, *in situ* radiation surveys, and soil gas sampling). The combination of this work will result in improved oversight, coordination, and reduced costs.

Scope of Work Changes This Period

None

Technical Approach Changes This Period

None

IAG Milestone Accomplishments

Submit Draft Phase I RFI/RI Work Plan
Submit Final Phase I RFI/RI Work Plan

26 Jun 92
19 Oct 92

Future IAG Milestones Through FY 95

<u>Milestone Name</u>	<u>Planned Date</u>	<u>Approved Extension Status</u>	<u>Forecast Date</u>
Submit Draft Phase I RFI/RI Report	20 Dec 94	Tolling Agreement	To be determined*
Submit Final Phase I RFI/RI Report	23 May 95		To be determined*

* To be determined pending IA reconfiguration.

February Work Activity Status

Field work for Stage I field investigations, which is the nonintrusive field investigations, is complete.

A controlled procedure is in parallel review for the use of a pushed type soil sampler. The pushed type sampler will be used in place of a conventional drilling rig and will reduce drilling cuttings and costs.

This procedure will facilitate sample collection and will significantly reduce costs.

Surficial soil sample analytical reports are being evaluated and work continues on the OU 14 TM #1, *Results of Nonintrusive Field Investigations*.

Technical Memoranda

Project

OU 14 - Radioactive Sites

TM #1

TM Title

TM Status

Results of Nonintrusive Field Investigations

Projected date of submittal to EPA/CDPHE: To be determined

Actual date of submittal: To be determined

Date EPA/CDPHE comments were received: To be determined

Planned Work for March

- The controlled procedure for the pushed type soil sampler will be finalized.
- A database format will be developed to assist in the evaluation of the analytical data that are being entered into the Rocky Flats Environmental Database System.

Problems

None

Open Items

None

2.15 OU 15 - INSIDE BUILDING CLOSURES

OU 15 is comprised of the following six IHSSs:

- IHSS 178, Building 881 - Drum Storage Area
- IHSS 179, Building 865 - Drum Storage Area
- IHSS 180, Building 883 - Drum Storage Area
- IHSS 204, RCRA Unit 45, Building 447 - Original Uranium Chip Roaster
- IHSS 211, RCRA Unit 26, Building 881 - Drum Storage Area
- IHSS 217, RCRA Unit 32, Building 881 - Cyanide Bench-Scale Treatment

Closure Plans for the IHSSs were submitted to CDPHE during 1988 and 1989. The IHSSs were also included in the IAG. During scoping meetings in April 1992 for the Phase I RFI/RI Work Plan, EPA, CDPHE, and DOE agreed to combine the Closure Plan and RFI/RI processes. In effect, the Clean Closure Performance Standard (6 CCR 1007-3 Part 265.111) will serve as the applicable or relevant and appropriate requirements for the OU 15 RFI/RI inside buildings for hazardous materials, and 29 CFR 1000.46 will serve as the applicable or relevant and appropriate requirements for the OU 15 RFI/RI inside buildings for radionuclides.

Drums containing solids and liquids were stored at the OU 15 IHSSs. Types of waste included oils, coolants, solvents containing chlorinated hydrocarbons (RCRA FO.01 and FO.02 wastes), and waste paints and metals contaminated with solvents. Hazardous constituents include chlorinated solvents, beryllium, and uranium. No known spills or releases occurred. The current focus is characterization of contamination associated with the OU 15 IHSSs inside buildings; and, if applicable, decontamination of the concrete floors and other facilities at the indoor RCRA units.

Scope of Work

Changes This Period

CDPHE's requirement for an independent engineer's RCRA Certification for clean closure of the OU 15 IHSSs.

Technical Approach

Changes This Period

The "No Action" approach will remain, but the remedy will not be titled in the Proposed Plan.

The baseline schedule has been adjusted for the scope change and for the requirements that were placed from the Final OU 15 Phase I RFI/RI Report approval letter that were received from the regulatory agencies.

IAG Milestone Accomplishments

Submit Draft Phase I RFI/RI Work Plan	01 Jun 92
Submit Final Phase I RFI/RI Work Plan	26 Oct 92
Submit Draft Phase I RFI/RI Report	25 Jul 94
Submit Final Phase I RFI/RI Report	19 Dec 94

Future IAG Milestones Through FY 95

None

February Work Activity Status

The Draft Proposed Plan was developed. DOE received the report on February 10, 1995, for review and comment.

Technical Memoranda

Project

OU 15 - Inside Building Closures

TM #1

TM Title

TM Status

Field Sampling Plan

When preparation is estimated to be concluded:

Projected date of submittal to EPA/CDPHE: 28 Feb 94

Actual date of submittal: 28 Feb 94

Date comments were received: Preliminary 17 Mar 94 (Formal
04 May 94, EPA; 07 Apr 94, CDPHE)

TM #2

TM Title

TM Status

Human Health and Risk Assessment

When preparation is estimated to be concluded:

Actual date the Final TM submitted to EPA/CDPHE: 28 Feb 94

Date comments were received: Preliminary 17 Mar 94 (Formal
04 May 94, EPA; 07 Apr 94, CDPHE)

Planned Work for March

- The contract for the RCRA certification will be amended.
- The Proposed Plan to the regulatory agencies will be submitted.

Problems

The CDPHE made the decision that the independent engineer's RCRA certification for clean closure cannot be performed by the current subcontractor.

The regulatory agencies use of the term "institutionalize" with regards to the existing radiological control program within the OU 15 IHSS buildings has not been specifically defined.

CDPHE's requirement that all OU 15 IHSSs must have independent engineer certifications for RCRA closure is not supported/required by RCRA and will set an inappropriate programmatic precedent at RFETS resulting in increased programmatic costs.

Open Items

None

2.16 SITEWIDE ACTIVITIES

Sitewide activities include several tasks that comprise a wide variety of plans, procedures, reports, studies, and activities required by the IAG and that apply to the general Rocky Flats Environmental Technology Site ER activities. Activities include, but are not limited to, the Health and Safety Plan, Sampling and Analysis Plan, Treatability Study deliverables, Background Study Plan, Groundwater Geochemistry, Risk Assessment, IA IM/IRA, hydrological characterization, Background Soils Study Plan, Decontamination Facilities, ER Waste handling facilities, groundwater monitoring, Decontamination and Decommissioning, and Program Management Support activities.

**Scope of Work
Changes This Period**

None

**Technical Approach
Changes This Period**

None

**IAG Milestone
Accomplishments**

Submit Draft Background Study Report (Water)	15 Dec 89
Submit Draft Background Study Report (Soils)	15 Dec 89
Submit Draft Community Survey Plan	23 Jan 90
Submit Final Community Survey Plan	22 Mar 90
Submit Draft Health and Safety Plan	15 Aug 90
Submit Draft Quality Assurance Project Plan	29 Aug 90
Submit Draft Standard Operating Procedures	29 Aug 90
Submit Draft Plan for Prevention of Contaminant Dispersion	19 Sep 90
Submit Draft Treatability Study Plan	21 Sep 90
Submit Draft Community Relations Plan	01 Nov 90
Submit Final Health and Safety Plan	12 Nov 90
Submit Revised Background Study Report	21 Dec 90
Submit Final Community Relations Plan	22 Jan 91
Submit Final Quality Assurance Project Plan	01 Mar 91
Submit Final Standard Operating Procedures	01 Mar 91
Submit Draft Radionuclides Discharge Limits Plan	05 Apr 91
Submit Community Relations Plan Responsiveness Summary	21 Jun 91
Submit Final Treatability Study Plan	03 Jun 91
Submit Final Plan for Prevention of Contaminant Dispersion	22 Jul 91
Submit Final Plan Discharge Limits Radionuclides	16 Sep 91
Submit Final Plan for Prevention of Contaminant Dispersion and Responsiveness Summary	25 Nov 91
Submit Draft Historical Release Report	08 Jan 92
Submit Responsiveness Summary for Radionuclides Discharge Limits Plan	31 Jan 92
Submit Final Historical Release Report	03 Jun 92
Submit Annual Treatability Study Report	08 Mar 93
Submit Sitewide Annual Treatability Study	04 Mar 94
Draft IA IM/IRA Decision Document	23 Mar 94
Submit Draft IA IM/IRA Responsiveness Summary	28 Oct 94
Submit Final IA IM/IRA Decision Document	21 Nov 94

**Future Milestones
Through FY 95**

<u>Milestone Name</u>	<u>Planned Date</u>	<u>Approved Extension Status</u>	<u>Forecast Date</u>
Submit Sitewide Annual Treatability Study	14 Mar 95		14 Mar 95

February Work Activity Status Sitewide Activities

Sitewide Treatability Studies

Removal of Actinides from Soil - The preparation of the Draft Final Removal of Actinides from the Soil Treatability Study Report continued. The release of the Draft Final Report is expected in April 1995.

Bench-Scale Agitated Leaching Studies - To reflect a revision to the project's Work Plan, the Chemically Enhanced Steam Stripping Treatability Study Project has been renamed as the Bench-Scale Agitated Leaching Studies. This revision in the name of the project is the result of an evaluation of the Interim Phase I Report. The new direction of this project will be to investigate the dissolution of plutonium from soil fines utilizing two lixiviant systems: (1) citrate-dithionite, and (2) citrate-ascorbate. Negotiations to finalize the work scope and budget continued.

Annual Treatability Study Report - DOE comments from February 3, 1995, were incorporated into the Final Draft Annual Treatability Study Report.

Other Sitewide Operations

Community Relations - Efforts on the communications subcommittee and the teacher workshop for ER 95 continue.

Community Relations is organizing meetings for the OU 4 technical staff to brief community groups, state and national legislators, and technical and elected representatives from the Cities that surround the Rocky Flats Environmental Technology Site.

Surface Water Management - Onsite Water Control

Dam Upgrades Project - A meeting was held to discuss Upstream Outlet Controls Project strategy. It was decided that of the three design options being developed as part of the engineering scope, the simplest design that utilizes a manual valve control located on the crest of the dam will sufficiently address project requirements. Also, a decision was made to utilize a Master Task Subcontractor for design purposes.

A draft plan for the management of the pond water during the installation of an upstream outlet control on Dam A-4 was developed.

This plan essentially uses Pond A-3 for batching of Pond B-5 water instead of Pond A-4, with the hope that any offsite discharges from Pond A-3 can be avoided by performing construction work during a low runoff period.

The Dam A-4 Upstream Outlet Control Project engineering scope was completed.

Surface Water Drainage Systems Environmental Assessment - Surface Water Drainage Systems Environmental Assessment support personnel met with management to draft an updated schedule. This is the first complete schedule for the new FY95 Environmental Assessment scope that has been developed. The new schedule shows the completion date of the Draft Environmental Assessment and the submittal of this draft on April 26, 1995.

Planned Work for March

Sitewide Activities

- **Removal of Actinides from Soil** - The preparation of the Draft Final Removal of Actinides from the Soil Treatability Study Report will continue.
- **Annual Treatability Study Report** - The Annual Treatability Study Report will be delivered in March 1995.

Other Sitewide Operations

- **Community Relations** - Normal Operations will continue.
- **Surface Water Drainage Systems Environmental Assessment** - Work on the Environmental Assessment Appendices A and B, which define project scope and connect work items with environmental effects and controls, will continue along with work on other sections.

Problems

None

Open Items

None

SECTION 3.0 ROUTINE ENVIRONMENTAL MONITORING

The following generalized sampling schedule for Routine Environmental Monitoring is provided as requested in Section 210 of the IAG. Detailed quarterly monitoring schedules are prepared in advance and are available to EPA and CDPHE upon request from the Environmental Management Department and EG&G Rocky Flats, Inc. The schedules are lengthy, and, therefore, they are not reproduced here. An EPA- or State-authorized representative may make arrangements to observe field work and obtain split or duplicate samples.

3.1 SURFACE WATER AND SEDIMENTS

Each of the Surface Water Stations (approximately 20 stations) is sampled quarterly.

Each of the Sediment Stations (approximately 10 stations) is sampled quarterly.

Each surface water and sediment sample is analyzed for the following parameters:

Contract Laboratory Program Target Compound List Volatile Organic Analysis
Metals Contract Laboratory Program Target Analysis List and Non-Target Analysis List
Field Parameters
Specific Conductivity
Dissolved Oxygen
Major Anions
Radionuclides
Temperature
Total Dissolved Solids/Total Suspended Solids
pH
Nutrients

Additionally, sediment samples are analyzed for Contract Laboratory Program-Semi Volatile Organic Analysis and Contract Laboratory Program-Pesticides/polychlorinated biphenyls Herbicides-619.

3.2 SOILS

Each of the soil stations (located at 1- and 2-mile radii from the site center) is sampled annually.

Each soil sample is analyzed for plutonium and americium.

3.3 GROUNDWATER

During February 1995, 109 wells were sampled and 217 monthly water measurements were completed. Twelve weekly water level measurements are ongoing.

Quarterly sampling is slightly ahead of schedule with a total of 199 (82 percent) wells sampled compared to 175 (73 percent) scheduled to be sampled during this reporting period. All RCRA compliance wells (86 total) and all Protection Area (44 total) wells have been sampled.

Groundwater samples are routinely sampled for the following:

Radiochemical Parameters

Gross Alpha
Gross Beta
Plutonium
Americium
Strontium
Tritium
Uranium
Cesium

Inorganic Parameters

Nitrate/Nitrite
Phosphorous
Ammonia
Total Dissolved Solids
Chlorine
Fluorine
Sulfate
Carbonate
Bicarbonate
Total Suspended Solids
Dissolved CLP¹ and additional metals
Cyanide
CLP¹ Volatile Organic Constituents

Field Parameters

Specific Conductivity
Temperature
Turbidity
pH

CLP = Contract Laboratory Program

SECTION 4. SUBCONTRACTOR IDENTIFICATION

Subcontractors being used on the Rocky Flats Environmental Technology Site ER Program and the work they are performing are identified on the following list as required by Paragraph 13 of the IAG.

<u>OU</u>	<u>Project</u>	<u>Subcontractor</u>	<u>Sub-Subcontractor</u>	<u>Work Description</u>	<u>Start Date</u>
1	Assessment	Dames & Moore		CMS/FS Report	Jan 92
1	Remediation	Resource Tech.		B-891 Treatment System Operations Group, Inc., (RTG)	
2	Assessment	Woodward-Clyde		OU 2 RFI/RI Work Plan (alluvial and bedrock) and RI field work (drilling, well completion/development)	Feb 92
2	Assessment	Woodward-Clyde	Layne	OU 2 RFI/RI Work Plan (bedrock) surficial soils	Mar 93
2	Remediation	RTG		Installation and operation of the water treatment system for South Walnut Creek Phase of OU 2 IRA	Jan 91
2	Soil Vapor Extraction	Woodward-Clyde		Operation of Soil Vapor Extraction	1993
3	Assessment	CH2M Hill		RI Report	Apr 92
4	Remediation	Halliburton	Halliburton	Demobilize	Sep 91
4	Assessment	Parsons/Eng Science	Rust I&E	Implement the Phase I RFI/RI Work Plan, includes drilling, sampling radiation surveys, etc.	Aug 92
4	Remediation	Parsons/ Eng Science		Development of IM/IRA Decision Document and conceptual design	
4	Remediation	ERM-Rocky Mountain	Geraghty & Miller	Post-Closure Monitoring Plan	Nov 93
4	Remediation	Halliburton		Develop Treatability Study for Pondcrete	Aug 94

<u>OU</u>	<u>Project</u>	<u>Subcontractor</u>	<u>Sub-Subcontractor</u>	<u>Work Description</u>	<u>Start Date</u>
4	Remediation	Halliburton		Develop Treatability Study and Conceptual Design for Pond Sludge Processing	Aug 94
5	Assessment	ASI	Dames & Moore Blackhawk Geo Walsh & Assoc. Layne Envir. Serv. S. M. Stoller Adv. Terra Testing	Implementation of OU 5 Work Plan (excluding Environmental Evaluation) Utility Mgmt. Service	Jun 92
5	Assessment	S. M. Stoller		Implementation of Environmental Evaluation section of OU 5 Work Plan	Sep 92
6	Assessment	Woodward-Clyde	Lane, Ogden, Geo Envir	OU 6 RFI/RI Work Plan and Quality Assurance Addendum	Aug 92
6	Assessment	S. M. Stoller		Implementation of EE Section of OU 6 Work Plan	Sep 92
7	Assessment	S. M. Stoller	Walsh & Assoc.	OU 7 revised Work Plan development and implementation. IM/IRA Decision Document development.	Nov 92
8	Assessment	Jacobs Eng.	Walsh & Assoc.	Implement the Phase I RFI/RI Work Plan for nonintrusive field work for the IA OUs	Aug 93
9	Assessment	Jacobs Eng.	Walsh & Assoc.	Implement the Phase I RFI/RI Work Plan for nonintrusive field work for the IA OUs	Aug 93
10	Assessment	Jacobs Eng.	Walsh & Assoc.	Implement the Phase I RFI/RI Work Plan for nonintrusive field work for the IA OUs	Aug 93

<u>OU</u>	<u>Project</u>	<u>Subcontractor</u>	<u>Sub</u> <u>Subcontractor</u>	<u>Work Description</u>	<u>Start Date</u>
11	Assessment	S. M. Stoller		Implement the RFI field work and report writing	Jan 94
12	Assessment	Jacobs Eng.	Walsh & Assoc.	Implement the Phase I RFI/RI Work Plan for nonintrusive field work for the IA OUs	Aug 93
13	Assessment	Jacobs Eng.	Walsh & Assoc.	Implement the Phase I RFI/RI Work Plan for nonintrusive field work for the IA OUs	Aug 93
14	Assessment	Jacobs Eng.	Walsh & Assoc.	Implement the Phase I RFI/RI Work Plan for nonintrusive field work for the IA OUs	Aug 93
15	Assessment	ERM-Rocky Mtn.	G. S. Miller, Inc.	Implementation of the RFI/RI Work Plan	Mar 93
SW	HRR	IT Corporation	Doty & Assoc.	Prepare HRR	Feb 91
SW	Adm. Record	QuantaLex		Maintain IAG Admin. Record	Oct. 90
SW	Geo. Char.	Jacobs Eng		Well Abandonment and Replacement	Mar 93
SW	Geo. Char.	Colorado State	University	Support master's thesis of Structural Geology, of Front Range Area near Rocky Flats	Nov 91
SW	Geo. Char.	S. M. Stoller		Prepare 1992 Annual RCRA Report and Addendum	Jan 93
SW	Geo. Char.	Colorado	School of Mines	Masters-level training program in Engineering Science and Engineering	Aug 92
SW	Geo. Char.	Woodward-Clyde		Support for the Soil Water Monitoring System	Feb. 93

<u>OU</u>	<u>Project</u>	<u>Subcontractor</u>	<u>Sub-Subcontractor</u>	<u>Work Description</u>	<u>Start Date</u>
SW	Geo. Char.	Colorado State University		Sequential Extraction	Apr 92
SW	Geo. Char.	University of Soil Colorado		Monitoring Vadose Zone	Jun 92
SW	Geo. Char.	S. M. Stoller		Spatial Analysis/Computer Support	Mar 93
SW	Geo. Char.	Woodward Clyde Water	SAIC/Wright		Jan 93
SW	Monitoring	IT Corporation		Analytical Services for groundwater, surface water, and sediment	Jul 90
SWQA		Support	SAIC	Develop and implement QA program and field operations oversight	Dec 90
PM Support		S. M. Stoller		Program Management Support	Oct 92
PMQA Support		SAIC		Provide Quality Assurance /Quality Control support to ER Program	Nov 92

ACRONYMS

CDPHE	Colorado Department of Public Health and Environment
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CMS	Corrective Measures Study
DOE	U. S. Department of Energy
EPA	U. S. Environmental Protection Agency
ER	Environmental Restoration
FS	Feasibility Study
FY	Fiscal Year
IA	Industrial Area
IAG	Interagency Agreement
IHSS	Individual Hazardous Substance Site
IM	Interim Measure
IRA	Interim Remedial Action
IRAP	Interim Remedial Action Plan
OU	Operable Unit
RCRA	Resource Conservation and Recovery Act
RFFO	Rocky Flats Field Office
RFI	RCRA Facilities Investigation
RI	Remedial Investigation
TM	Technical Memorandum